



U.S. Department
of Transportation

**Federal Highway
Administration**

Accidents Reported by Motor Carriers of Passengers 1984-1988

Office of Motor Carriers



HIGHLIGHTS OF THE 1984-88 REPORT

1984-1988 OVERVIEW

- This document profiles accidents which occurred between 1984 and 1988, reported by commercial passenger carriers subject to regulation by the U.S. Department of Transportation. It is suspected that accidents involving these carriers were *under-reported*; actions are underway to correct this in the future.
- 2,922 accidents were reported by commercial carriers of passengers during the five-year period.
- From 1984-88, approximately 1 in 12 reported accidents resulted in fatalities; however, nearly 8 in 12 accidents produced non-fatal injuries.
- Reported accidents involved 372 fatalities, 8,607 non-fatal injuries, and over \$28 million in property damage.
- Four out of every 10 commercial passenger vehicle accidents occurred in just two states: New Jersey and New York.

- Four out of every 10 reported fatalities occurred in just two states: New Jersey and California.

THE DRIVER

- Four of every 10 persons killed — and 6 of every 10 persons non-fatally injured — in commercial passenger vehicle accidents were drivers or occupants of the commercial vehicles.
- Commercial passenger vehicle drivers under age 21 were involved in accidents which produced property damage significantly higher than that produced by any other age group. Drivers over age 35 tended to be involved in accidents with higher fatalities and injuries than were their younger counterparts.
- Sixty percent of all commercial passenger vehicle accidents reported occurred within the first four hours of driving.

THE VEHICLE

- Nine out of every 10 reported accidents involved buses, as opposed to limousines and other commercial passenger vehicles.
- Accidents involving heavier passenger vehicles tended to result in higher fatalities and injuries than did accidents involving lighter commercial passenger vehicles.
- Mechanical defects contributed to less than 3 percent of the accidents reported by commercial passenger vehicle carriers, according to the carriers reporting the accidents.
- fatalities, 88 percent of the injuries, and 82 percent of the property damage reported during the five-year period.
- Collision and non-collision accidents were equally likely to result in fatalities. However, non-collision accidents – though they occurred infrequently – resulted in higher injury rates and property damage.
- One out of 4 non-collision accidents was reportedly the result of the passenger vehicle running off the road.

THE ACCIDENT SETTING

- Seven out of 10 reported accidents occurred under favorable weather and road conditions.
- Accidents which occurred under optimal environmental conditions tended to result in higher fatality and injury rates than those which occurred under adverse conditions. However, accidents under adverse conditions resulted in higher property losses.

THE ACCIDENT

- Nine out of 10 accidents involved collisions between a commercial passenger vehicle and one or more other vehicles. These accidents generated 90 percent of the

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INTRODUCTION

This document presents aggregate statistics derived from the *Motor Carriers of Passengers Accident Database: 1984-88*. The database was compiled from reports of applicable accidents filed by commercial passenger vehicle (CPV) carriers subject to the Department of Transportation Act (49 U.S.C. 1651-60). The database is maintained by the Office of Motor Carriers (OMC), Federal Highway Administration, U.S. Department of Transportation.

The data presented in this publication are intended for use by individuals and organizations in the public and private sectors requiring information on accidents of motor carriers of passengers. Readers seeking general information will find that these materials satisfy many of their basic data requirements. Persons needing more specialized information than presented here are encouraged to contact OMC directly.

ACCIDENT REPORTING

During 1984-88, motor carriers which operated commercial passenger vehicles in interstate commerce — and sometimes in interstate or intercity commerce —

were subject to the reporting requirements specified in the *Code of Federal Regulations*, Title 49, Part 394. These carriers complied with the regulations by reporting their accidents using Federal Form MCS 50-B, *Motor Carrier Accident Report (Passenger-Carrying)*.

A "reportable" accident has occurred when one or more of the following conditions results:

- At least one person dies.
- At least one person experiences bodily injury which requires immediate medical treatment away from the scene of the accident.
- Property is damaged in the amount of \$4,400 or more, based on actual or estimated costs.

The MCS 50-B report contains over 60 data elements pertaining to the motor carrier, driver, vehicles, and circumstances of the accident. Accident reports, when received by OMC, are entered into the Accident Database for Motor Carriers of Passengers.

GENERAL NATURE OF THE DATA

Readers should be aware of several important limitations in the data. First, the database used to compile this report is limited to those accident occurrences for which MCS 50-B's were filed. This is significant because there is substantial evidence to suggest that carriers are not reporting all accident occurrences meeting the reportable criteria.

Secondly, the circumstances of the accidents are entered into the database precisely as that information is reported by the carriers. Consequently, it is possible that commercial carriers' accounts of accidents, as recorded in the database, are biased and deviate from the accounts of the same accidents compiled by police, courts, insurance companies, etc.

Finally, users of this report should remember that this publication is a summary of accident statistics presented without benefit of *exposure* factors. Exposure refers to the potential opportunity for a given event to occur. Suppose, for instance, that two carriers, A and B, experienced 12 and 18 reportable accidents, respectively. Carrier A logged 5 million miles of travel during the year, while Carrier B travelled 10 million miles. Initially, it might look as though Carrier B was less safe than Carrier A, since B had 18 accidents and A had only 12. However, when one considers the exposure — in this case, *total vehicle miles driven* — a very different picture emerges. Now it is seen that Carrier A experienced 2.4 accidents per million miles travelled, whereas Carrier B experienced only 1.8 accidents per million miles of travel.

Perhaps Carrier B was really the safer of the two carriers.

Because this document is largely devoid of exposure data, one must exercise great caution in attempting to compare the probabilities of accidents occurring under various circumstances. For instance, while the data on accidents by time of day chronicled in Chapter 4 show that most accidents occurred during the day, one cannot necessarily conclude that the probability of accidents happening in the daytime was greater than at night. Before one could draw that conclusion, one would need to examine such exposure factors as the number of commercial passenger vehicles on the roads in the daytime versus the nighttime.

One may, however, properly use the data in this document to compare the probable consequences of accidents under different circumstances. For example, one *can* make a valid determination about whether accidents were more severe on undivided versus divided highways.

SPECIALIZED CHARACTERISTICS OF PASSENGER-CARRIER DATA

In examining the information in this report on commercial passenger carrier accidents, the statistical limitations of the data must be acknowledged. Because accidents involving CPV's occur relatively infrequently, statistically insignificant changes in the total number of accident occurrences may radically alter apparent trends in the data. In other words, an apparent sizable increase in the annual number of fatalities involving passenger

vehicles does not necessarily portend an erosion in highway safety, but, instead, may simply be attributable to the occurrence of one or two catastrophic CPV accidents. Thus, when a particular state experiences only 4 CPV-related fatalities in a given year, but the number of CPV fatalities increases to 6 the next year, one must be extremely cautious about assigning significance to the fact that the CPV-accident fatality rate increased by 50 percent.

To mitigate the adverse impact of statistically low accident occurrences, the data in this report are shown for multiple years. Some data are presented as cumulative totals for the entire five-year period. Most data, however, are displayed as averages per year so that the data in this report can be compared to annualized data in other reports. The "average per year" values presented are calculated as simple arithmetic means -- readers may compute the cumulative five-year totals for a given variable by multiplying the "average per year" totals by "5."

Readers of this report will discover that the same raw number totals presented in various tables or figures occasionally differ. These differences—all of which are small—can be attributed to the process of averaging, aggregating, and then rounding long strings of numbers.

NOTE ON PROPERTY DAMAGE

OMC employs a variety of pre- and post-entry screening activities to help ensure that MCS 50-B reports entered into the Accident Database are complete and accurate. Between 1984 and 1988, post-

entry screening included an automated search for those accident records in which Total Property Damage (Item 21) had been left blank by carriers; a value of "\$4,401" was inserted in order to guarantee that all records in the database met Federal reporting criteria for property damage (see *Accident Reporting*, page ix, for a description of these criteria). The "\$4,401" value was added to each record in which Total Property Damage was blank, including those records where Total Persons Killed or Injured (Items 18-20) were not blank.

Consequently, one should view references in this document to property damage with caution—actual property damage values could have been substantially higher or lower than those shown. It should be further noted that there is no mechanism on the MCS 50-B report for gauging whether the Total Property Damage recorded by a carrier represents an "actual" or "estimated" cost.

ORGANIZATION OF THE DOCUMENT

This document contains five chapters:

- Chapter 1: 1984-1988 Overview
- Chapter 2: The Driver
- Chapter 3: The Vehicle
- Chapter 4: The Accident Setting
- Chapter 5: The Accident

Within each chapter, data are organized under specific topics. A glossary of terms and a copy of Form MCS 50-B are presented in the Appendix.

DATA CONVENTIONS

The following conventions are used throughout this document:

- Percentages shown in tables and figures are rounded to the nearest one-tenth or one-hundredth of 1 percent. Percentages do not always total 100 due to rounding.
- Items which motor carriers left blank on the 50-B report are noted in tables and figures under the "Not Reported" category.
- When the size of the sample from which the data shown in a given figure were drawn is not readily apparent, the sample size is identified at the base of the figure. For example, "N=2,922" means that the data shown were drawn from 2,922 accident reports.
- Accident consequences – notably fatality and injury rates – are usually expressed as a rate per 100 accidents.
- Specific parts of the *Federal Motor Carrier Safety Regulations (FMCSRs)* are referenced in the text of the document, as appropriate. For example, "49 CFR 392.14" means Title 49 of the *Code of Federal Regulations*, Part 392.14.

ADDITIONAL INFORMATION

- For answers to questions not addressed in this publication, please contact the Federal Highway Administration, Office of Motor Car-

riers, HIA-10, at 400 Seventh Street, S.W., Washington, D.C. 20590. The telephone number is 202-366-4023.

Chapter 1

Overview

Accident Class Totals Accident Consequences State Accident Statistics Five-Year Trends

During the five-year period, 1984-1988, an average of 584 accidents involving interstate and intercity commercial passenger vehicle (CPV) carriers were reported annually by the individuals and companies who operate those vehicles. These accidents resulted in an average of 74 fatalities, 1,721 non-fatal injuries, and property damage estimated of nearly \$6 million per year. Fewer than 1 in 12 accidents involved fatalities, though nearly 8 in 12 produced non-fatal injuries. Trend data for the five-year period, 1984-1988, reveals that total accidents reported in 1988 increased by approximately 5 percent – and fatalities by more than 12 percent – over the 1984 totals. Injuries, however, increased by 36 percent.

ACCIDENT CLASS TOTALS

The 2,922 accidents reported from 1984-1988 fall into three classes:

- *Fatal Accidents.* This group includes all accidents for which at least one fatality was reported. These accidents may also have involved non-fatal injuries and property damage.
- *Injury Accidents.* At least one injury, but no fatality, was reported for each accident in this category. Property damage may also have been a consequence of "injury" accidents.

**Table 1-1
Accident Summary By Year: 1984-88**

YEAR	FATAL ACCIDENTS		INJURY ACCIDENTS		PROPERTY DAMAGE ACCIDENTS		TOTAL ACCIDENTS	
	#	%	#	%	#	%	#	%
1984	48	19.75	374	19.51	206	27.03	628	21.49
1985	49	20.16	390	20.34	237	31.10	676	23.13
1986	44	18.11	268	13.98	88	11.55	400	13.69
1987	59	24.28	392	20.45	107	14.04	558	19.10
1988	43	17.70	493	25.72	124	16.27	660	22.59
TOTAL	243	100.00	1,917	100.00	762	99.99	2,922	100.00
AVERAGE PER YEAR	48.6		383.4		152.4		584.4	

Table 1-2 Accident Consequences By Year: 1984-88						
YEAR	FATALITIES		INJURIES		PROPERTY DAMAGE	
	#	%	#	%	#	%
1984	57	15.32	1,505	17.49	4,904,023	17.21
1985	62	16.67	1,825	21.20	6,427,774	22.56
1986	100	26.88	1,176	13.66	4,146,677	14.55
1987	89	23.92	2,059	23.92	6,577,255	23.08
1988	64	17.20	2,042	23.72	6,439,297	22.60
TOTAL	372	99.99	8,607	99.99	28,495,026	100.00
AVERAGE PER YEAR	74.4		1,721.4		5,699,005	

- *Property Damage Accidents.* Each of these accidents resulted in actual or estimated vehicle, cargo, and other property damage of \$4,400 or more, but involved no fatalities or injuries.

Accidents are grouped into these classes according to the highest accident severity. For example, accidents which resulted in both fatalities and injuries are classified as "fatal" accidents. Accidents involving both injuries and property damage fall into the "injury" category.

Tables 1-1 and 1-2 summarize the 1984-1988 CPV accident data by year and the three accident classes and consequences.

In Table 1-3, class totals are broken down further by carrier type, accident type, and trip type. Carrier type includes "for-hire" and "other." Accident type encompasses (1) collisions with moving, fixed, or parked objects, and (2) non-collisions, e.g., fires, overturns. Trip type indicates whether the CPV's were engaged in "intercity" (i.e., between cities) or "city" transportation at the time of the accident, and whether the operation was a

"charter" or "scheduled" trip.

Approximately 9 out of every 10 bus accidents reported were the result of collisions; 8 out of 10 accidents occurred during intercity operations. Accidents occurring during scheduled operations accounted for almost 7 out of every 10 accidents.

ACCIDENT CONSEQUENCES

Fatalities, injuries, and property damage — the physical *consequences* of motor carriers of passengers accidents — are summarized in Table 1-4. The data show that the majority of accident consequences from 1984-1988 were the result of (1) accidents involving for-hire carriers, (2) collisions, and (3) accidents occurring during scheduled intercity trips.

As with the class totals, nearly all (about 80 percent) of the accident consequences reported involved for-hire carriers. Additionally, 85 percent of all property damage occurred in accidents during intercity trips.

Table 1-3
Accident Class Totals
By Carrier Type, Accident Type, and Trip Type
Average Per Year: 1984 - 1988

	FATAL ACCIDENTS		INJURY ACCIDENTS		PROPERTY DAMAGE ACCIDENTS		TOTAL ACCIDENTS	
	#	%	#	%	#	%	#	%
CARRIER TYPE								
FOR-HIRE	39.2	80.66	302.8	78.98	129.6	85.04	471.6	80.70
OTHER	2.2	4.53	31.2	8.14	4.6	3.02	38.0	6.50
TYPE NOT RPTD.	7.2	14.81	49.4	12.88	18.2	11.94	74.8	12.80
TOTAL	48.6	100.00	383.4	100.00	152.4	100.00	584.4	100.00
ACCIDENT TYPE								
COLLISION	45.8	94.24	336.0	87.64	141.6	92.91	523.4	89.56
NON-COLLISION	2.8	5.76	46.6	12.15	10.6	6.96	60.0	10.27
TYPE NOT RPTD.	0.0	0.00	0.8	0.21	0.2	0.13	1.0	0.17
TOTAL	48.6	100.00	383.4	100.00	152.4	100.00	584.4	100.00
TRIP TYPE:								
INTERCITY								
CHARTER	15.0	39.47	98.0	32.82	47.2	35.38	160.2	34.09
SCHEDULED	23.0	60.53	197.6	66.18	84.6	63.42	305.2	64.94
TYPE NOT RPTD.	0.0	0.00	3.0	1.00	1.6	1.20	4.6	0.98
TOTAL	38.0	100.00	298.6	100.00	133.4	100.00	470.0	100.01
CITY OPERATION								
CHARTER	1.2	12.24	10.4	12.78	3.6	21.43	15.2	14.07
SCHEDULED	8.6	87.76	70.8	86.98	13.2	78.57	92.6	85.74
TYPE NOT RPTD.	0.0	0.00	0.2	0.25	0.0	0.00	0.2	0.19
TOTAL	9.8	100.00	81.4	100.01	16.8	100.00	108.00	100.00
NOT REPORTED								
CHARTER	0.0	0.00	0.2	5.88	0.6	27.27	0.8	12.50
SCHEDULED	0.4	50.00	1.2	35.29	0.6	27.27	2.2	34.38
TYPE NOT RPTD.	0.4	50.00	2.0	58.82	1.0	45.45	3.4	53.13
TOTAL	0.8	100.00	3.4	99.99	2.2	99.99	6.4	100.01
TOTAL								
CHARTER	16.2	33.33	108.6	28.33	51.4	33.73	176.2	30.15
SCHEDULED	32.0	65.84	269.6	70.32	98.4	64.57	400.0	68.45
TYPE NOT RPTD.	0.4	0.82	5.2	1.36	2.6	1.71	8.2	1.40
TOTAL	48.6	99.99	383.4	100.01	152.4	100.01	584.4	100.00

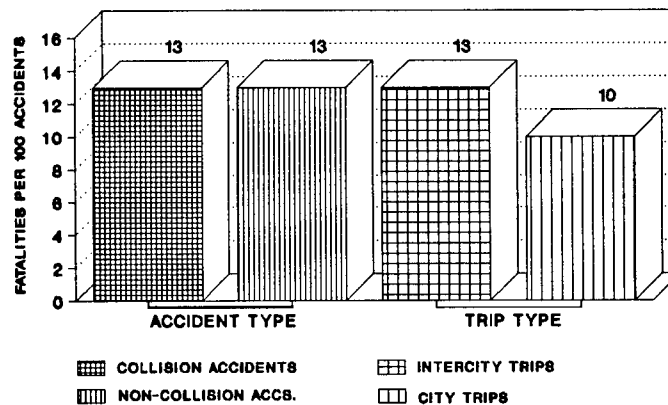


Figure 1-1
Fatalities Per 100 Accidents
By Accident Type and Trip Type: 1984-88

*Accidents Reported By Motor Carriers of Passengers
(1984-1988)*

Table 1-4 Accident Consequences By Carrier Type, Accident Type, and Trip Type Average Per Year: 1984 - 1988						
	FATALITIES		INJURIES		PROPERTY DAMAGE	
	#	%	#	%	\$	%
CARRIER TYPE						
FOR-HIRE	59.8	80.38	1,379.0	80.11	4,477,091	78.56
OTHER	3.2	4.30	144.0	8.37	237,173	4.16
TYPE NOT RPTD.	11.4	15.32	198.4	11.53	984,741	17.28
TOTAL	74.4	100.00	1,721.4	100.01	5,699,005	100.00
ACCIDENT TYPE						
COLLISION	66.6	89.52	1,508.0	87.60	4,685,153	82.21
NON-COLLISION	7.8	10.48	212.6	12.35	1,008,852	17.70
TYPE NOT RPTD.	0.0	0.00	0.8	0.05	5,000	0.09
TOTAL	74.4	100.00	1,721.4	100.00	5,699,005	100.00
TRIP TYPE:						
INTERCITY						
CHARTER	24.2	38.78	499.2	38.87	2,085,384	42.91
SCHEDULED	38.2	61.22	761.2	59.27	2,732,306	56.23
TYPE NOT RPTD.	0.0	0.00	23.8	1.85	41,674	0.86
TOTAL	62.4	100.00	1,284.2	99.99	4,859,364	100.00
CITY OPERATION						
CHARTER	1.2	11.11	96.2	22.55	162,473	20.69
SCHEDULED	9.6	88.88	329.8	77.31	622,709	79.31
TYPE NOT RPTD.	0.0	0.00	0.6	0.14	0	0.00
TOTAL	10.8	99.99	426.6	100.00	785,182	100.00
NOT REPORTED						
CHARTER	0.0	0.00	0.4	3.77	5,524	10.18
SCHEDULED	0.6	50.00	6.2	58.49	25,283	46.60
TYPE NOT RPTD.	0.6	50.00	4.0	37.74	23,453	43.22
TOTAL	1.2	100.00	10.6	100.00	54,260	100.00
TOTAL						
CHARTER	25.4	34.14	595.8	34.61	2,253,380	39.54
SCHEDULED	48.4	65.05	1,097.2	63.74	3,380,298	59.31
TYPE NOT RPTD.	0.6	0.81	28.4	1.65	65,327	1.15
TOTAL	74.4	100.00	1,721.4	100.00	5,699,005	100.00

Over the five-year period, less than 1 out of every 12 CPV accidents produced fatalities. Fatal accidents averaged 1.5 deaths each. Figures 1-1, 1-2, and 1-3 show the rates at which fatalities, injuries, and property damage—by accident and trip type—were generated. The fatality rates for collision accidents and non-collision accidents show no difference in the rate of occurrence (Figure 1-1); the fatality rates for intercity trips, however, were 30 percent higher than those for city trips. Non-fatal injuries occurred more

frequently in non-collisions than in collisions; accidents during intercity travel resulted in fewer non-fatal injuries than those during city trips (Figure 1-2).

Property damage in non-collision accidents was estimated to be nearly twice as high as in collision accidents (Figure 1-3). Also, property damage from intercity bus accidents resulted in estimated losses 40 percent higher than those generated by in-city accidents.

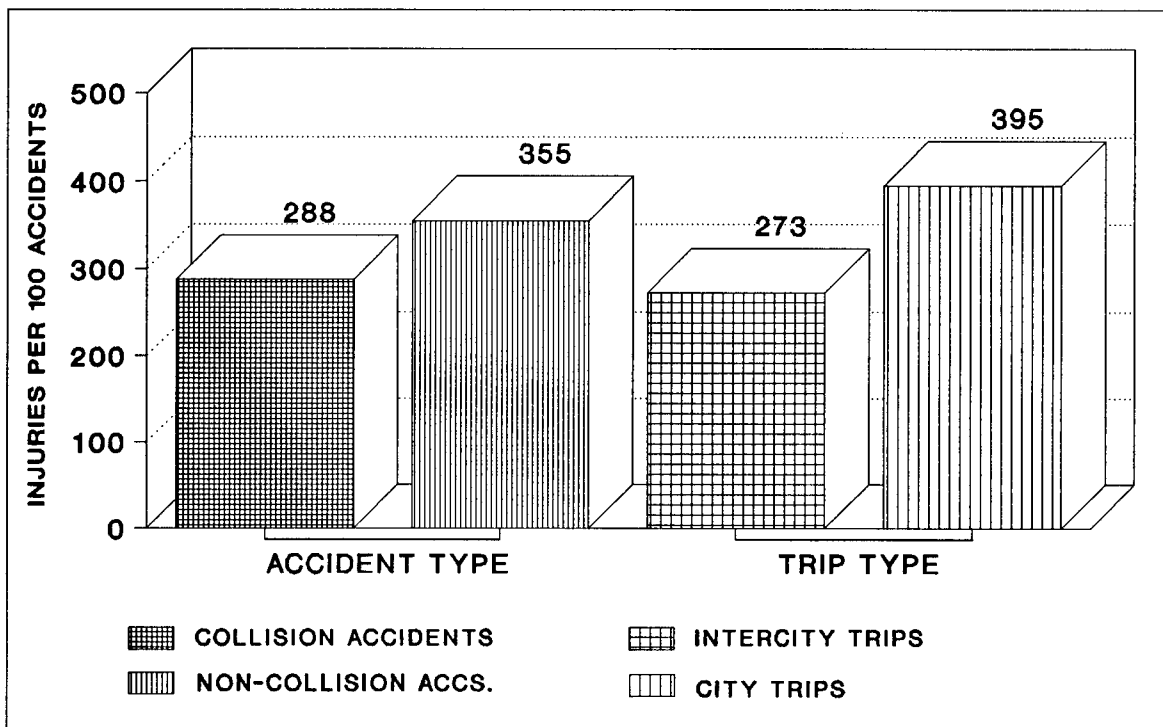


Figure 1-2
Injuries Per 100 Accidents
By Accident Type and Trip Type: 1984-88

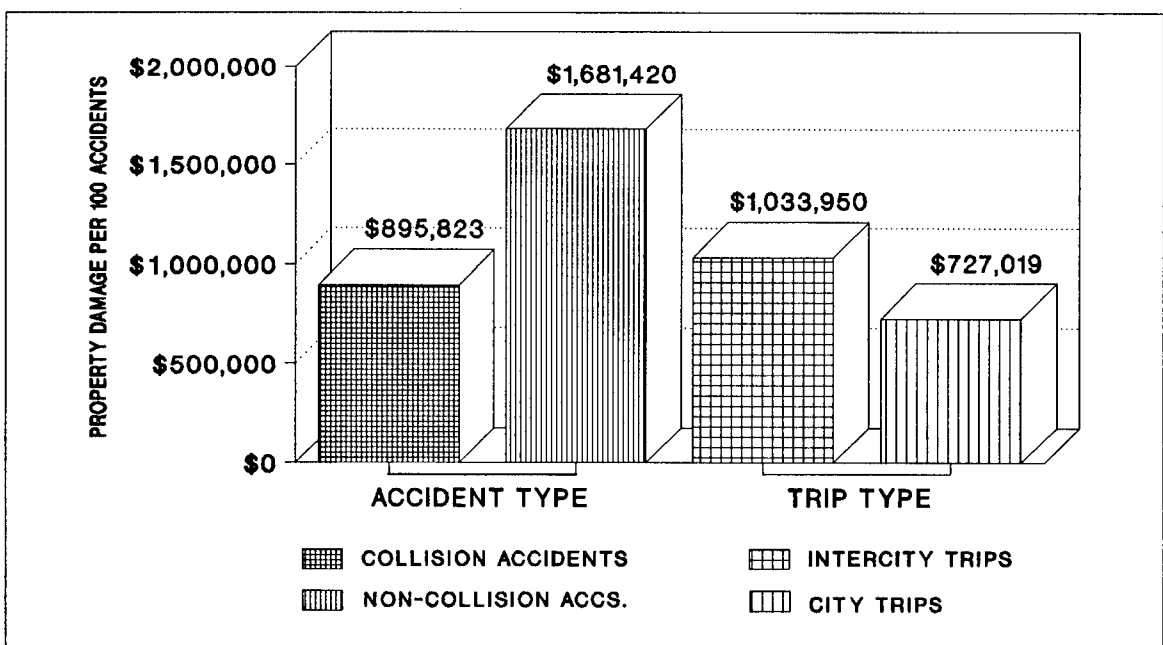


Figure 1-3
Property Damage Per 100 Accidents
By Accident Type and Trip Type: 1984-88

STATE ACCIDENT STATISTICS

From 1984 through 1988, reported accidents occurred in the District of Columbia and every State except Rhode Island. Accidents involving U.S. carriers in Canada were also reported. CPV accidents, however, were not reported as occurring in any of the U.S. territories.

Figure 1-4 compares levels of accidents by state. The largest number of accidents were reported in New Jersey and New York. Large numbers of accidents also occurred in California, Pennsylvania, Missouri, and Texas. In general, accidents in a given state were experienced in proportion to the volume of intercity, local, and charter CPV trips experienced in that state. Hence, more accidents occurred in states most heavily travelled by CPV's.

Tables 1-5 through 1-8 summarize state statistics by accident class and consequence; both cumulative totals and average-per-year totals are shown for the five-year period. Between 1984 and 1988, CPV carrier accidents reported annually ranged from an average low of 1 in several States to a high of 128 in New Jersey (Table 1-6). Annual average fatalities stretched from 0 in several States to 19 in New Jersey (Table 1-8).

Thirty-eight percent of all accidents reported during the five-year period occurred in just two states: New Jersey and New York (Table 1-5). Almost fifty percent of the reported fatalities occurred in 3 states: New Jersey, California, and New York (Table 1-7).

Table 1-9 compares the percentage of accidents, by state, which were fatal.

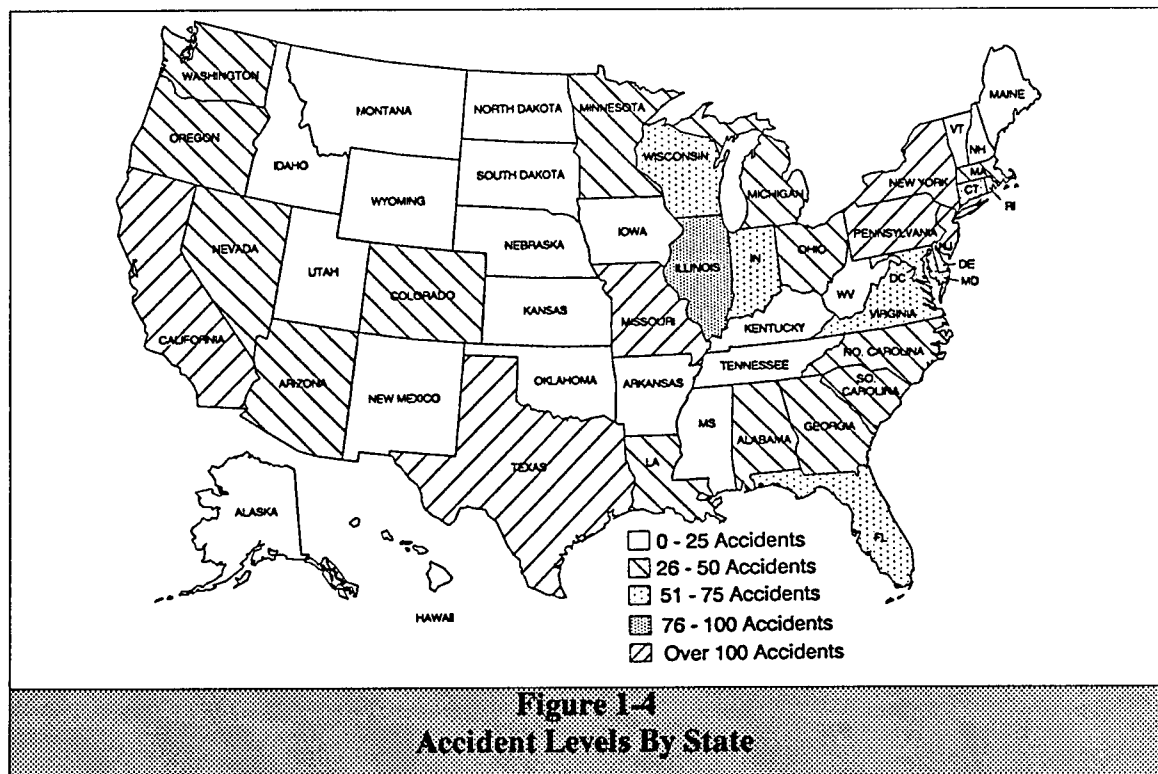


Table 1-5
Accident Class Totals By State
Cumulative Totals: 1984 - 1988

STATE	FATAL ACCIDENTS		INJURY ACCIDENTS		PROPERTY DAMAGE ACCIDENTS		TOTAL ACCIDENTS	
	#	%	#	%	#	%	#	%
ALABAMA	6	2.5	16	0.8	10	1.3	32	1.1
ALASKA	1	0.4	3	0.2	1	0.1	5	0.2
ARIZONA	1	0.4	18	0.9	9	1.2	28	1.0
ARKANSAS	2	0.8	15	0.8	3	0.4	20	0.7
CALIFORNIA	30	12.3	91	4.7	74	9.7	195	6.7
COLORADO	4	1.6	17	0.9	11	1.4	32	1.1
CONNECTICUT	3	1.2	41	2.1	28	3.7	72	2.5
DELAWARE	1	0.4	4	0.2	2	0.3	7	0.2
DIST. OF COLUMBIA	4	1.6	17	0.9	9	1.2	30	1.0
FLORIDA	10	4.1	44	2.3	20	2.6	74	2.5
GEORGIA	4	1.6	15	0.8	10	1.3	29	1.0
HAWAII	1	0.4	11	0.6	4	0.5	16	0.5
IDAHO	0	0.0	3	0.2	3	0.4	6	0.2
ILLINOIS	4	1.6	57	3.0	27	3.5	88	3.0
INDIANA	6	2.5	34	1.8	11	1.4	51	1.7
IOWA	0	0.0	5	0.3	8	1.0	13	0.4
KANSAS	0	0.0	7	0.4	4	0.5	11	0.4
KENTUCKY	1	0.4	11	0.6	4	0.5	16	0.5
LOUISIANA	4	1.6	21	1.1	12	1.6	37	1.3
MAINE	1	0.4	2	0.1	1	0.1	4	0.1
MARYLAND	7	2.9	38	2.0	14	1.8	59	2.0
MASSACHUSETTS	4	1.6	22	1.1	17	2.2	43	1.5
MICHIGAN	2	0.8	26	1.4	10	1.3	38	1.3
MINNESOTA	2	0.8	21	1.1	12	1.6	35	1.2
MISSISSIPPI	3	1.2	11	0.6	4	0.5	18	0.6
MISSOURI	0	0.0	106	5.5	7	0.9	113	3.9
MONTANA	0	0.0	8	0.4	4	0.5	12	0.4
NEBRASKA	0	0.0	6	0.3	1	0.1	7	0.2
NEVADA	2	0.8	20	1.0	6	0.8	28	1.0
NEW HAMPSHIRE	1	0.4	6	0.3	12	1.6	19	0.7
NEW JERSEY	49	20.2	474	24.7	115	15.1	638	21.8
NEW MEXICO	3	1.2	12	0.6	1	0.1	16	0.5
NEW YORK	32	13.2	338	17.6	116	15.2	486	16.6
NORTH CAROLINA	7	2.9	13	0.7	12	1.6	32	1.1
NORTH DAKOTA	0	0.0	2	0.1	0	0.0	2	0.1
OHIO	2	0.8	27	1.4	10	1.3	39	1.3
OKLAHOMA	3	1.2	5	0.3	4	0.5	12	0.4
OREGON	3	1.2	18	0.9	7	0.9	28	1.0
PENNSYLVANIA	3	1.2	105	5.5	40	5.2	148	5.1
RHODE ISLAND	0	0.0	0	0.0	0	0.0	0	0.0
SOUTH CAROLINA	4	1.6	19	1.0	7	0.9	30	1.0
SOUTH DAKOTA	2	0.8	1	0.1	2	0.3	5	0.2
TENNESSEE	2	0.8	12	0.6	10	1.3	24	0.8
TEXAS	13	5.3	57	3.0	33	4.3	103	3.5
UTAH	3	1.2	5	0.3	5	0.7	13	0.4
VERMONT	0	0.0	5	0.3	5	0.7	10	0.3
VIRGINIA	3	1.2	39	2.0	21	2.8	63	2.2
WASHINGTON	0	0.0	15	0.8	13	1.7	28	1.0
WEST VIRGINIA	2	0.8	8	0.4	0	0.0	10	0.3
WISCONSIN	6	2.5	50	2.6	17	2.2	73	2.5
WYOMING	0	0.0	4	0.2	1	0.1	5	0.2
U.S. TERRITORIES	0	0.0	0	0.0	0	0.0	0	0.0
CANADA	1	0.4	12	0.6	5	0.7	18	0.6
MEXICO	0	0.0	0	0.0	0	0.0	0	0.0
STATE NOT RPTD.	1	0.4	0	0.0	0	0.0	1	0.0
TOTAL	243	99.2	1,917	100.1	762	99.6	2,922	99.8

*Accidents Reported By Motor Carriers of Passengers
(1984-1988)*

Table 1-6 Accident Class Totals By State Average Per Year: 1984 - 1988								
STATE	FATAL ACCIDENTS		INJURY ACCIDENTS		PROPERTY DAMAGE ACCIDENTS		TOTAL ACCIDENTS	
	#	%	#	%	#	%	#	%
ALABAMA	1.2	2.47	3.2	0.83	2.0	1.31	6.4	1.10
ALASKA	0.2	0.41	0.6	0.16	0.2	0.13	1.0	0.17
ARIZONA	0.2	0.41	3.6	0.94	1.8	1.18	5.6	0.96
ARKANSAS	0.4	0.82	3.0	0.78	0.6	0.39	4.0	0.68
CALIFORNIA	6.0	12.35	18.2	4.75	14.8	9.71	39.0	6.67
COLORADO	0.8	1.65	3.4	0.89	2.2	1.44	6.4	1.10
CONNECTICUT	0.6	1.23	8.2	2.14	5.6	3.67	14.4	2.46
DELAWARE	0.2	0.41	0.8	0.21	0.4	0.26	1.4	0.24
DIST. OF COLUMBIA	0.8	1.65	3.4	0.89	1.8	1.18	6.0	1.03
FLORIDA	2.0	4.12	8.8	2.30	4.0	2.62	14.8	2.53
GEORGIA	0.8	1.65	3.0	0.78	2.0	1.31	5.8	0.99
HAWAII	0.2	0.41	2.2	0.57	0.8	0.52	3.2	0.55
IDAHO	0.0	0.00	0.6	0.16	0.6	0.39	1.2	0.21
ILLINOIS	0.8	1.65	11.4	2.97	5.4	3.54	17.6	3.01
INDIANA	1.2	2.47	6.8	1.77	2.2	1.44	10.2	1.75
IOWA	0.0	0.00	1.0	0.26	1.6	1.05	2.6	0.44
KANSAS	0.0	0.00	1.4	0.37	0.8	0.52	2.2	0.38
KENTUCKY	0.2	0.41	2.2	0.57	0.8	0.52	3.2	0.55
LOUISIANA	0.8	1.65	4.2	1.10	2.4	1.57	7.4	1.27
MAINE	0.2	0.41	0.4	0.10	0.2	0.13	0.8	0.14
MARYLAND	1.4	2.88	7.6	1.98	2.8	1.84	11.8	2.02
MASSACHUSETTS	0.8	1.65	4.4	1.15	3.4	2.23	8.6	1.47
MICHIGAN	0.4	0.82	5.2	1.36	2.0	1.31	7.6	1.30
MINNESOTA	0.4	0.82	4.2	1.10	2.4	1.57	7.0	1.20
MISSISSIPPI	0.6	1.23	2.2	0.57	0.8	0.52	3.6	0.62
MISSOURI	0.0	0.00	21.2	5.53	1.4	0.92	22.6	3.87
MONTANA	0.0	0.00	1.6	0.42	0.8	0.52	2.4	0.41
NEBRASKA	0.0	0.00	1.2	0.31	0.2	0.13	1.4	0.24
NEVADA	0.4	0.82	4.0	1.04	1.2	0.79	5.6	0.96
NEW HAMPSHIRE	0.2	0.41	1.2	0.31	2.4	1.57	3.8	0.65
NEW JERSEY	9.8	20.16	94.8	24.73	23.0	15.09	127.6	21.83
NEW MEXICO	0.6	1.23	2.4	0.63	0.2	0.13	3.2	0.55
NEW YORK	6.4	13.17	67.6	17.63	23.2	15.22	97.2	16.63
NORTH CAROLINA	1.4	2.88	2.6	0.68	2.4	1.57	6.4	1.10
NORTH DAKOTA	0.0	0.00	0.4	0.10	0.0	0.00	0.4	0.07
OHIO	0.4	0.82	5.4	1.41	2.0	1.31	7.8	1.33
OKLAHOMA	0.6	1.23	1.0	0.26	0.8	0.52	2.4	0.41
OREGON	0.6	1.23	3.6	0.94	1.4	0.92	5.6	0.96
PENNSYLVANIA	0.6	1.23	21.0	5.48	8.0	5.25	29.6	5.07
RHODE ISLAND	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00
SOUTH CAROLINA	0.8	1.65	3.8	0.99	1.4	0.92	6.0	1.03
SOUTH DAKOTA	0.4	0.82	0.2	0.05	0.4	0.26	1.0	0.17
TENNESSEE	0.4	0.82	2.4	0.63	2.0	1.31	4.8	0.82
TEXAS	2.6	5.35	11.4	2.97	6.6	4.33	20.6	3.52
UTAH	0.6	1.23	1.0	0.26	1.0	0.66	2.6	0.44
VERMONT	0.0	0.00	1.0	0.26	1.0	0.66	2.0	0.34
VIRGINIA	0.6	1.20	7.8	2.03	4.2	2.76	12.6	2.16
WASHINGTON	0.0	0.00	3.0	0.78	2.6	1.71	5.6	0.96
WEST VIRGINIA	0.4	0.82	1.6	0.42	0.0	0.00	2.0	0.34
WISCONSIN	1.2	2.47	10.0	2.61	3.4	2.23	14.6	2.50
WYOMING	0.0	0.00	0.8	0.21	0.2	0.13	1.0	0.17
U.S. TERRITORIES	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00
CANADA	0.2	0.41	2.4	0.63	1.0	0.66	3.6	0.62
MEXICO	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00
STATE NOT RPTD.	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00
TOTAL	48.4	99.98	383.4	100.01	152.4	99.92	584.2	99.99

Table 1-7
Accident Consequences By State
Cumulative Totals: 1984 - 1988

STATE	FATALITIES		INJURIES		PROPERTY DAMAGE	
	#	%	#	%	\$	%
ALABAMA	7	1.9	240	2.8	726,800	2.6
ALASKA	1	0.3	44	0.5	224,500	0.8
ARIZONA	1	0.3	65	0.8	202,263	0.7
ARKANSAS	2	0.5	129	1.5	387,460	1.4
CALIFORNIA	52	14.0	476	5.5	2,165,670	7.6
COLORADO	10	2.7	85	1.0	328,475	1.2
CONNECTICUT	3	0.8	141	1.6	747,229	2.6
DELAWARE	3	0.8	39	0.5	84,800	0.3
DIST. OF COLUMBIA	6	1.6	49	0.6	185,840	0.7
FLORIDA	12	3.2	187	2.2	957,169	3.4
GEORGIA	4	1.1	47	0.5	290,736	1.0
HAWAII	2	0.5	35	0.4	96,279	0.3
IDAHO	0	0.0	7	0.1	49,010	0.2
ILLINOIS	6	1.6	305	3.5	651,335	2.3
INDIANA	11	3.0	148	1.7	375,285	1.3
IOWA	0	0.0	16	0.2	85,050	0.3
KANSAS	0	0.0	21	0.2	167,250	0.6
KENTUCKY	1	0.3	55	0.6	191,537	0.7
LOUISIANA	5	1.3	91	1.1	430,890	1.5
MAINE	1	0.3	70	0.8	254,000	0.9
MARYLAND	14	3.8	101	1.2	776,607	2.7
MASSACHUSETTS	4	1.1	50	0.6	463,592	1.6
MICHIGAN	2	0.5	69	0.8	371,110	1.3
MINNESOTA	2	0.5	80	0.9	347,775	1.2
MISSISSIPPI	3	0.8	42	0.5	281,750	1.0
MISSOURI	0	0.0	461	5.4	403,271	1.4
MONTANA	0	0.0	20	0.2	132,645	0.5
NEBRASKA	0	0.0	11	0.1	36,300	0.1
NEVADA	3	0.8	104	1.2	332,192	1.2
NEW HAMPSHIRE	1	0.3	14	0.2	251,357	0.9
NEW JERSEY	96	25.8	2,085	24.2	4,537,377	15.9
NEW MEXICO	7	1.9	80	0.9	184,999	0.6
NEW YORK	36	9.7	1,321	15.3	3,940,309	13.8
NORTH CAROLINA	9	2.4	80	0.9	461,525	1.6
NORTH DAKOTA	0	0.0	3	0.0	6,700	0.0
OHIO	2	0.5	139	1.6	306,216	1.1
OKLAHOMA	7	1.9	21	0.2	190,700	0.7
OREGON	4	1.1	106	1.2	426,650	1.5
PENNSYLVANIA	5	1.3	538	6.3	1,678,189	5.9
RHODE ISLAND	0	0.0	0	0.0	0	0.0
SOUTH CAROLINA	4	1.1	71	0.8	303,536	1.1
SOUTH DAKOTA	2	0.5	14	0.2	233,400	0.8
TENNESSEE	2	0.5	66	0.8	443,050	1.6
TEXAS	24	6.5	240	2.8	1,738,766	6.1
UTAH	5	1.3	97	1.1	200,700	0.7
VERMONT	0	0.0	57	0.7	106,698	0.4
VIRGINIA	3	0.8	195	2.3	851,145	3.0
WASHINGTON	0	0.0	41	0.5	177,732	0.6
WEST VIRGINIA	2	0.5	35	0.4	97,400	0.3
WISCONSIN	6	1.6	162	1.9	423,453	1.5
WYOMING	0	0.0	8	0.1	34,409	0.1
U.S. TERRITORIES	0	0.0	0	0.0	0	0.0
CANADA	1	0.3	46	0.5	153,895	0.5
MEXICO	0	0.0	0	0.0	0	0.0
STATE NOT RPTD.	1	0.3	0	0.0	0	0.0
TOTAL	372	100.0	8,607	99.9	28,495,026	100.1

*Accidents Reported By Motor Carriers of Passengers
(1984-1988)*

Table 1-8 Accident Consequences By State Average Per Year: 1984 - 1988						
STATE	FATALITIES		INJURIES		PROPERTY DAMAGE	
	#	%	#	%	\$	%
ALABAMA	1.4	1.88	48.0	2.79	145,360	2.55
ALASKA	0.2	0.27	8.8	0.51	44,900	0.79
ARIZONA	0.2	0.27	13.0	0.76	40,453	0.71
ARKANSAS	0.4	0.54	25.8	1.50	77,492	1.36
CALIFORNIA	10.4	13.98	95.2	5.53	433,134	7.60
COLORADO	2.0	2.69	17.0	0.99	65,695	1.15
CONNECTICUT	0.6	0.81	28.2	1.64	149,446	2.62
DELAWARE	0.6	0.81	7.8	0.45	16,960	0.30
DIST. OF COLUMBIA	1.2	1.61	9.8	0.57	37,168	0.65
FLORIDA	2.4	3.23	37.4	2.17	191,434	3.36
GEORGIA	0.8	1.08	9.4	0.55	58,147	1.02
HAWAII	0.4	0.54	7.0	0.41	19,256	0.34
IDAHO	0.0	0.00	1.4	0.08	9,802	0.17
ILLINOIS	1.2	1.61	61.0	3.54	130,267	2.29
INDIANA	2.2	2.96	29.6	1.72	75,057	1.32
IOWA	0.0	0.00	3.2	0.19	17,010	0.30
KANSAS	0.0	0.00	4.2	0.24	33,450	0.59
KENTUCKY	0.2	0.27	11.0	0.64	38,307	0.67
LOUISIANA	1.0	1.34	18.2	1.06	86,178	1.51
MAINE	0.2	0.27	14.0	0.81	50,800	0.89
MARYLAND	2.8	3.76	20.2	1.17	155,321	2.73
MASSACHUSETTS	0.8	1.08	10.0	0.58	92,718	1.63
MICHIGAN	0.4	0.54	13.8	0.80	74,222	1.30
MINNESOTA	0.4	0.54	16.0	0.93	69,555	1.22
MISSISSIPPI	0.6	0.81	8.4	0.49	56,350	0.99
MISSOURI	0.0	0.00	92.2	5.36	80,654	1.42
MONTANA	0.0	0.00	4.0	0.23	26,529	0.47
NEBRASKA	0.0	0.00	2.2	0.13	7,260	0.13
NEVADA	0.6	0.81	20.8	1.21	66,438	1.17
NEW HAMPSHIRE	0.2	0.27	2.8	0.16	50,271	0.88
NEW JERSEY	19.2	25.81	417.0	24.22	907,475	15.92
NEW MEXICO	1.4	1.88	16.0	0.93	37,000	0.65
NEW YORK	7.2	9.68	264.2	15.35	788,062	13.83
NORTH CAROLINA	1.8	2.42	16.0	0.93	92,305	1.62
NORTH DAKOTA	0.0	0.00	0.6	0.03	1,340	0.02
OHIO	0.4	0.54	27.8	1.61	61,243	1.07
OKLAHOMA	1.4	1.88	4.2	0.24	38,140	0.67
OREGON	0.8	1.08	21.2	1.23	85,330	1.50
PENNSYLVANIA	1.0	1.34	107.6	6.25	335,638	5.89
RHODE ISLAND	0.0	0.00	0.0	0.00	0	0.00
SOUTH CAROLINA	0.8	1.08	14.2	0.82	60,707	1.07
SOUTH DAKOTA	0.4	0.54	2.8	0.16	46,680	0.82
TENNESSEE	0.4	0.54	13.2	0.77	88,610	1.55
TEXAS	4.8	6.45	48.0	2.79	347,753	6.10
UTAH	1.0	1.34	19.4	1.13	40,140	0.70
VERMONT	0.0	0.00	11.4	0.66	21,340	0.37
VIRGINIA	0.6	0.81	39.0	2.27	170,229	2.99
WASHINGTON	0.0	0.00	8.2	0.48	35,546	0.62
WEST VIRGINIA	0.4	0.54	7.0	0.41	19,480	0.34
WISCONSIN	1.2	1.61	32.4	1.88	84,691	1.49
WYOMING	0.0	0.00	1.6	0.09	6,882	0.12
U.S. TERRITORIES	0.0	0.00	0.0	0.00	0	0.00
CANADA	0.2	0.27	9.2	0.53	30,779	0.54
MEXICO	0.0	0.00	0.0	0.00	0	0.00
STATE NOT RPTD.	0.2	0.27	0.0	0.00	0	0.00
TOTAL	74.4	100.05	1,721.4	99.99	5,699,004	100.01

Table 1-9
Percent Fatal Accidents By State
Average Per Year: 1984 - 1988

STATE	FATAL ACCIDENTS #	TOTAL ACCIDENTS #	% FATAL ACCIDENTS %
ALABAMA	1.2	6.4	18.75
ALASKA	0.2	1.0	0.20
ARIZONA	0.2	5.6	3.57
ARKANSAS	0.4	4.0	0.10
CALIFORNIA	6.0	39.0	15.38
COLORADO	0.8	6.4	12.50
CONNECTICUT	0.6	14.4	4.17
DELAWARE	0.2	1.4	14.29
DIST. OF COLUMBIA	0.8	6.0	13.33
FLORIDA	2.0	14.8	13.51
GEORGIA	0.8	5.8	13.79
HAWAII	0.2	3.2	6.25
IDAHO	0.0	1.2	0.00
ILLINOIS	0.8	17.6	4.55
INDIANA	1.2	10.2	11.76
IOWA	0.0	2.6	0.00
KANSAS	0.0	2.2	0.00
KENTUCKY	0.2	3.2	6.25
LOUISIANA	0.8	7.4	10.81
MAINE	0.2	0.8	25.00
MARYLAND	1.4	11.8	11.86
MASSACHUSETTS	0.8	8.6	9.30
MICHIGAN	0.4	7.6	5.26
MINNESOTA	0.4	7.0	5.71
MISSISSIPPI	0.6	3.6	16.67
MISSOURI	0.0	22.6	0.00
MONTANA	0.0	2.4	0.00
NEBRASKA	0.0	1.4	0.00
NEVADA	0.4	5.6	7.14
NEW HAMPSHIRE	0.2	3.8	5.26
NEW JERSEY	9.8	127.6	7.68
NEW MEXICO	0.6	3.2	18.75
NEW YORK	6.4	97.2	6.58
NORTH CAROLINA	1.4	6.4	21.88
NORTH DAKOTA	0.0	0.4	0.00
OHIO	0.4	7.8	5.13
OKLAHOMA	0.6	2.4	25.00
OREGON	0.6	5.6	10.71
PENNSYLVANIA	0.6	29.6	2.03
RHODE ISLAND	0.0	0.0	0.00
SOUTH CAROLINA	0.8	6.0	13.33
SOUTH DAKOTA	0.4	1.0	40.00
TENNESSEE	0.4	4.8	8.33
TEXAS	2.6	20.6	12.62
UTAH	0.6	2.6	23.08
VERMONT	0.0	2.0	0.00
VIRGINIA	0.6	12.6	4.76
WASHINGTON	0.0	5.6	0.00
WEST VIRGINIA	0.4	2.0	20.00
WISCONSIN	1.2	14.6	8.23
WYOMING	0.0	1.0	0.00
U.S. TERRITORIES	0.0	0.0	0.00
CANADA	0.2	3.6	5.56
MEXICO	0.0	0.0	0.00
STATE NOT RPTD.	0.2	0.2	100.00
TOTAL	48.6	584.4	8.32

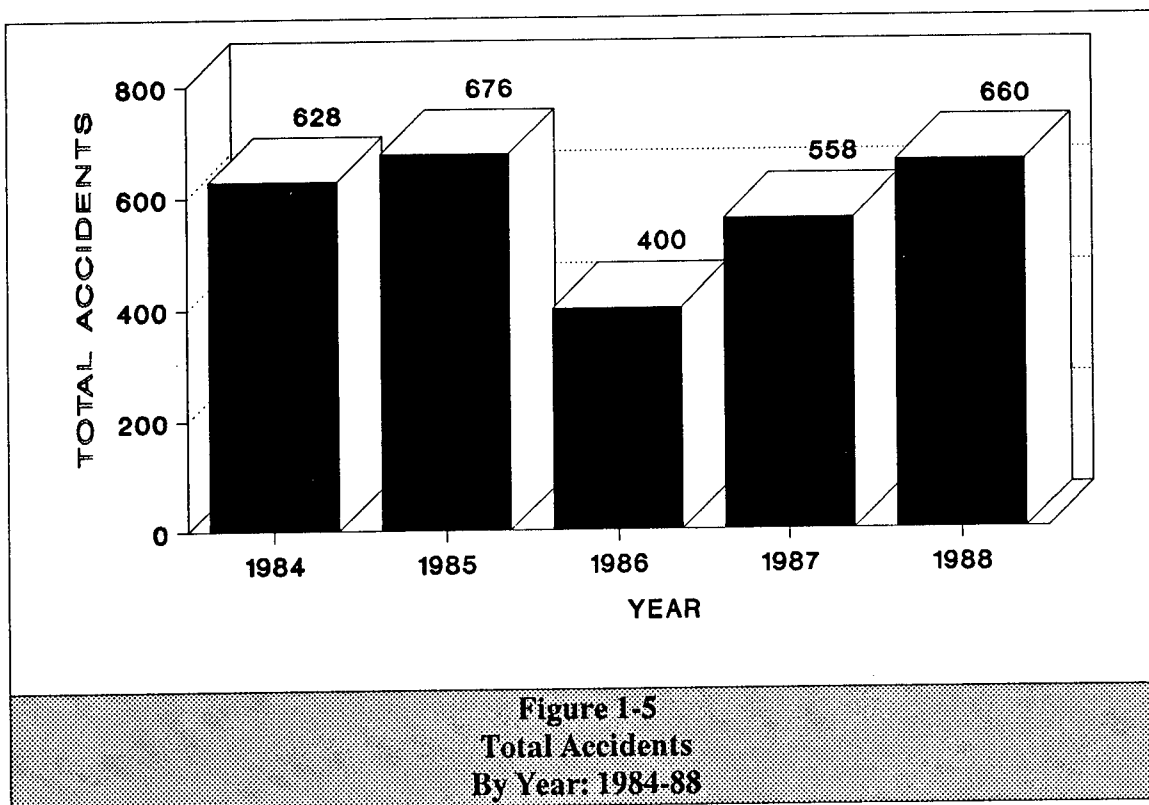
FIVE-YEAR TRENDS

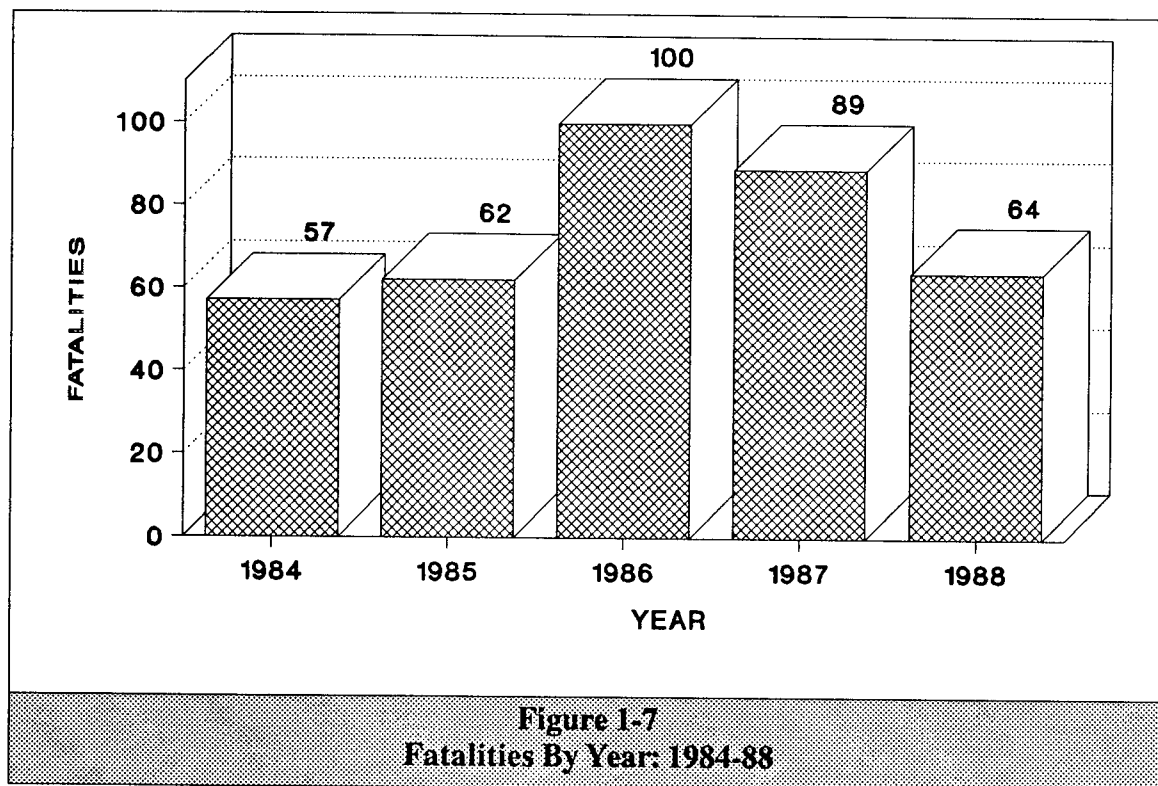
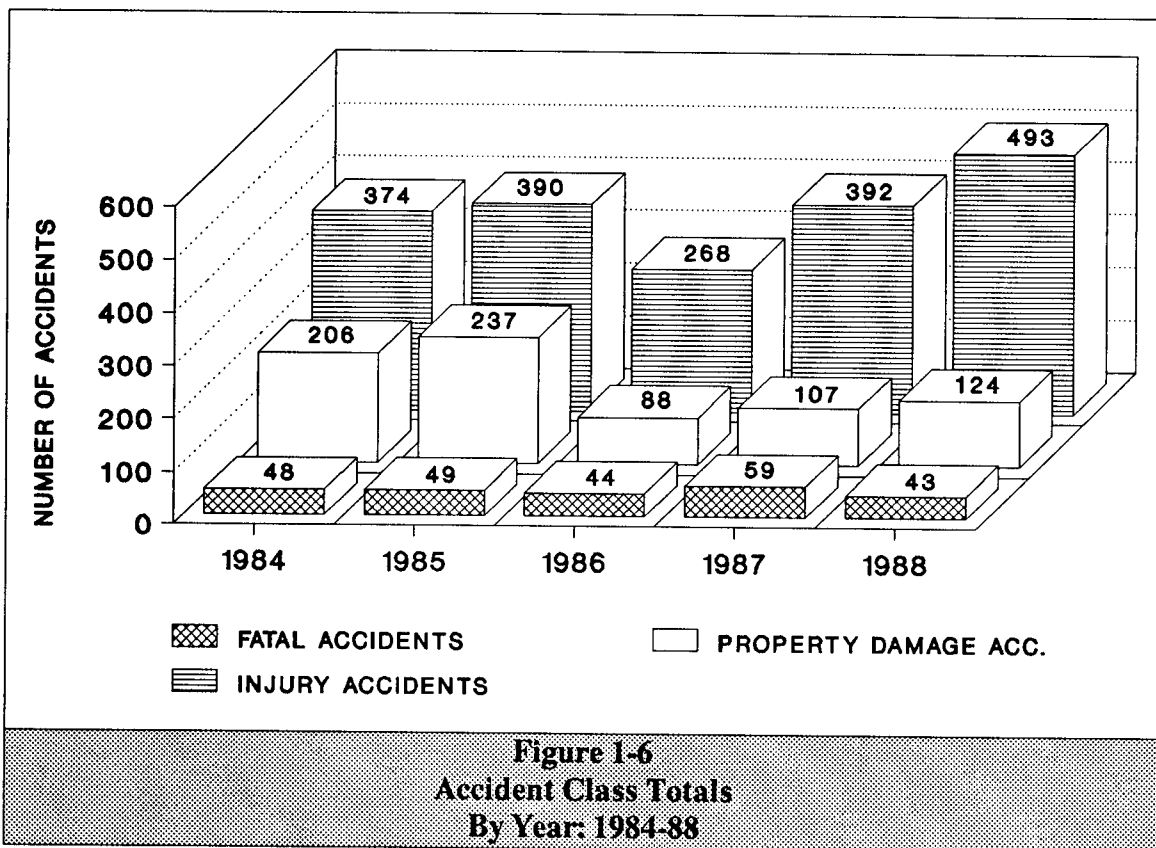
Figures 1-5 through 1-8 summarize CPV accident trends for the five-year period, 1984-1988. In reviewing these data, note that the property damage thresholds (i.e., the lower-end dollar boundaries at which accidents are reportable according to the Federal property damage criterion) have been adjusted for inflation in terms of 1975 dollars. Hence, those accidents which were reported, but which did not meet the adjusted thresholds, have been excluded from the figures and tables.

Key trends during the five-year period included the following:

- Accidents reported in 1988 increased 5 percent over total accidents reported in 1984 (Figure 1-5).
- Fatal accidents decreased by 10 percent, to 43, in 1988 (Figure 1-6). However, during that same period, total fatalities increased by 12 percent, to 64, in 1988 (Figure 1-7).
- Total injuries, exclusive of fatalities, increased 36 percent over the 1984 value (Figure 1-8).

Table 1-10 summarizes the statistical data for the five-year period. Percentage changes from year to year are shown for each statistic.





*Accidents Reported By Motor Carriers of Passengers
(1984-1988)*

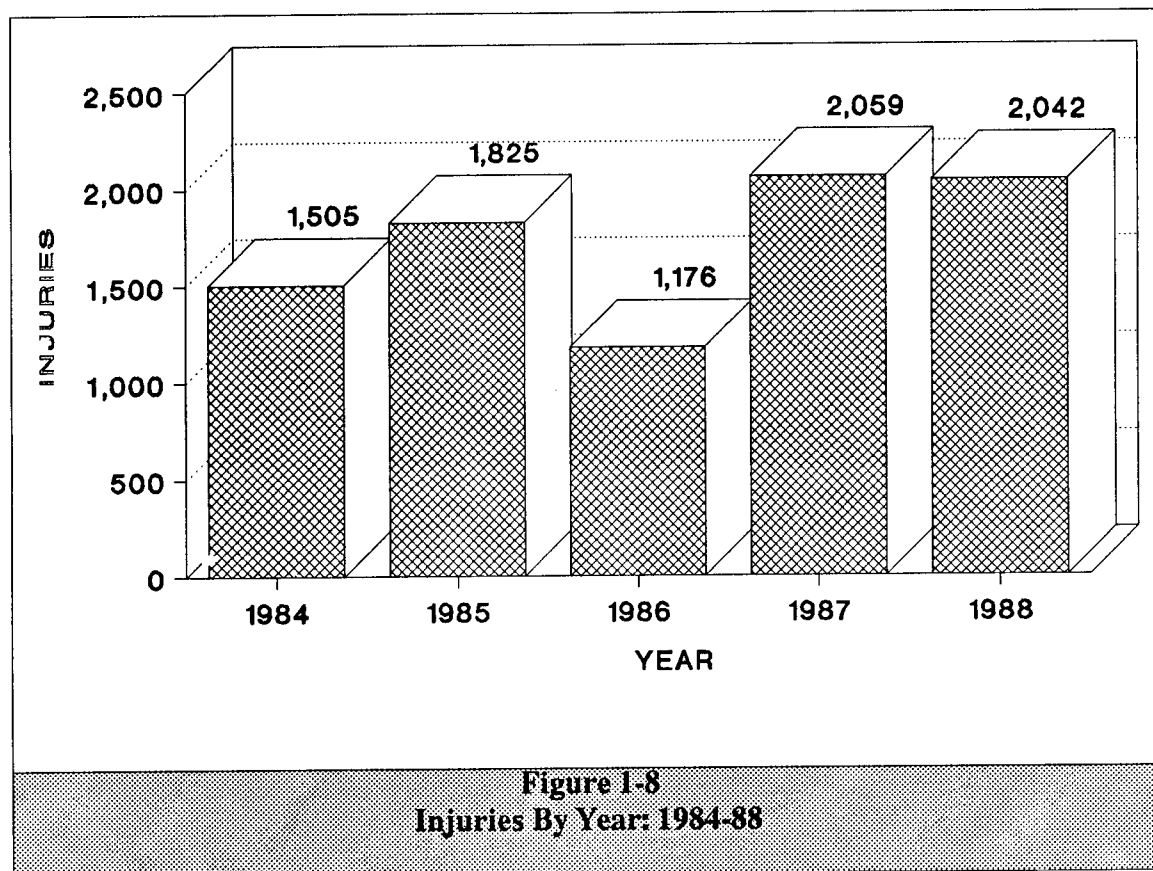


Table 1-10 Annual Percentage Change in Accident Statistics: 1984-88					
	1984-1985	1985-1986	1986-1987	1987-1988	1984-1988
ACCIDENTS					
FATAL	+2.1	-10.2	+34.1	-27.1	-10.4
INJURY	+4.3	-31.3	+46.3	+25.8	+31.8
PROPERTY DAMAGE	+15.0	-62.9	+21.6	+15.9	-39.8
TOTAL	+7.6	-40.8	+39.5	+18.3	+5.1
CONSEQUENCES					
FATALITIES	+8.7	+61.3	-11.0	-28.1	+12.3
INJURIES	+21.3	-35.6	+75.1	-0.8	+35.7

Chapter 2

THE DRIVER

Physical Condition of Drivers Accidents and Driver Age Accidents and Hours Driven

At the time of the accident, the typical professional driver was male, between the ages of 25 and 54, and reported to be in good physical condition. Driver age appeared to impact accident severity in two ways: accidents involving CPV drivers under 21 tended to result in substantially higher levels of property damage than when other aged drivers were involved; accidents involving drivers age 35 and over tended to produce more injuries than accidents involving younger drivers. The majority of accidents occurred within the first four hours of vehicle operation.

PHYSICAL CONDITION OF DRIVERS

For nearly all of the accidents, physical impairment of the vehicle's driver was not a causal factor, according to carriers' accounts of reported accidents. As shown in Table 2-1, driver's condition just prior to the accident was reported as "apparently normal" in 99 percent of the accidents; less than 1 percent of the drivers were acknowledged to have "dozed at the wheel" or "have been drinking."

Table 2-1
Accidents, Fatalities, Injuries, and Property Damage
By Condition of Driver at Time of Accident
Average Per Year: 1984 - 1988

CONDITION OF DRIVER	ACCIDENTS		FATALITIES		INJURIES		PROPERTY DAMAGE	
	#	%	#	%	#	%	\$	%
APPARENTLY NORMAL	576.0	98.56	72.2	97.04	1,698.2	98.68	5,468,661	95.96
SICK	0.8	0.14	0.6	0.81	1.8	0.10	2,880	0.05
HAD BEEN DRINKING	0.8	0.14	0.0	0.00	2.8	0.16	20,000	0.35
DOZED AT WHEEL	1.6	0.27	0.0	0.00	5.6	0.33	10,030	0.18
OTHER	4.4	0.75	1.0	1.34	12.4	0.72	193,834	3.40
CONDITION NOT RPTD.	0.8	0.14	0.6	0.81	0.2	0.01	3,600	0.06
TOTAL	584.4	100.00	74.4	100.00	1,721.0	100.00	5,699,005	100.00

In reviewing the data on driver condition, it should be noted that carrier officials actually reporting the accidents to DOT were not usually present at the accident sites to observe the conditions of their drivers firsthand. Also, police reports which could help substantiate carriers' accounts of their drivers' conditions were not routinely available to DOT analysts.

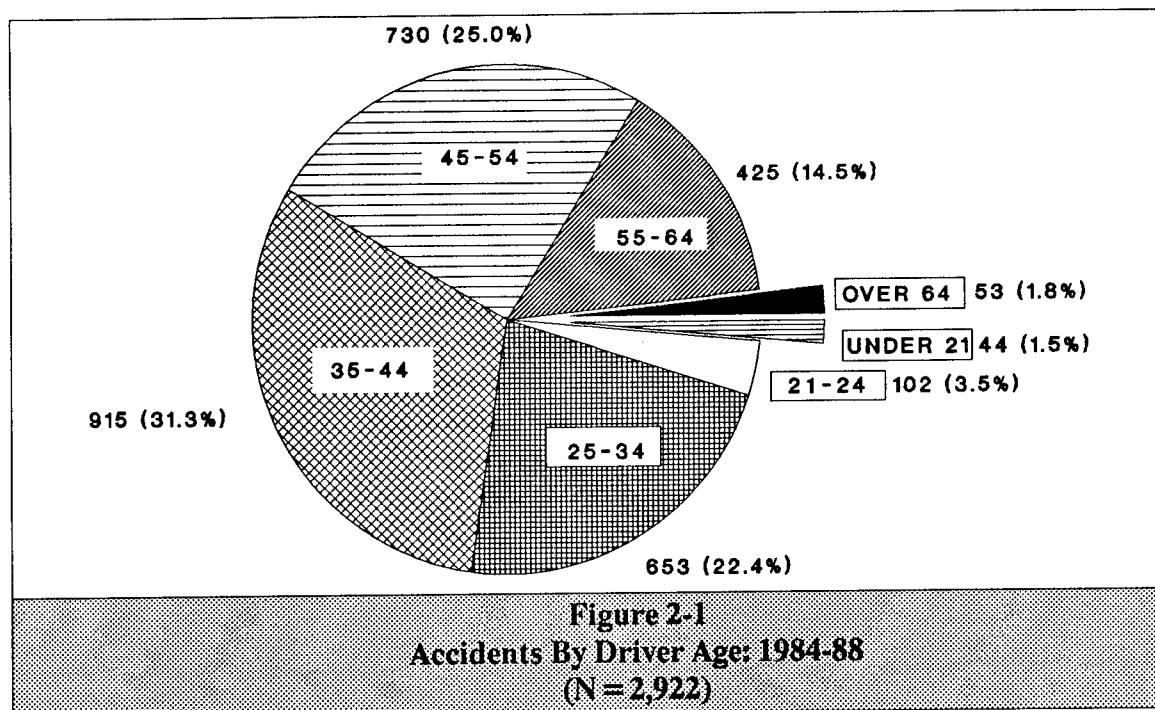
Table 2-2 reveals that persons killed in CPV accidents were more likely to be non-occupants of CPV's (e.g., drivers and passengers of other vehicles, bicyclists, or pedestrians) than CPV occupants. However, persons sustaining non-fatal injuries in CPV accidents were more likely to be occupants of the CPV's. During the reporting period, more than 6 out of every 10 persons killed in CPV accidents were non-occupants of the CPV's, while nearly 6 out of every 10 non-fatally persons injured were occupants of the

CPV's.

ACCIDENTS AND DRIVER AGE

Figure 2-1 breaks down total accidents by driver age. Not surprisingly, the bulk of the accidents (79 percent) involved drivers between the ages of 25 and 54, which is consistent with the age spread of most of the nation's professional drivers. Three percent of the accidents involved drivers under 21 and over 64.

Figure 2-2 compares accident severity by driver age. In general, when driver age was under 21, property damage per 100 accidents tended to be highest; when driver age was under 35, injuries per 100 accidents tended to be lowest. It should be noted that these apparent differences in accident severity by driver age were not tested for statistical significance. Indeed, the data for the reporting period,



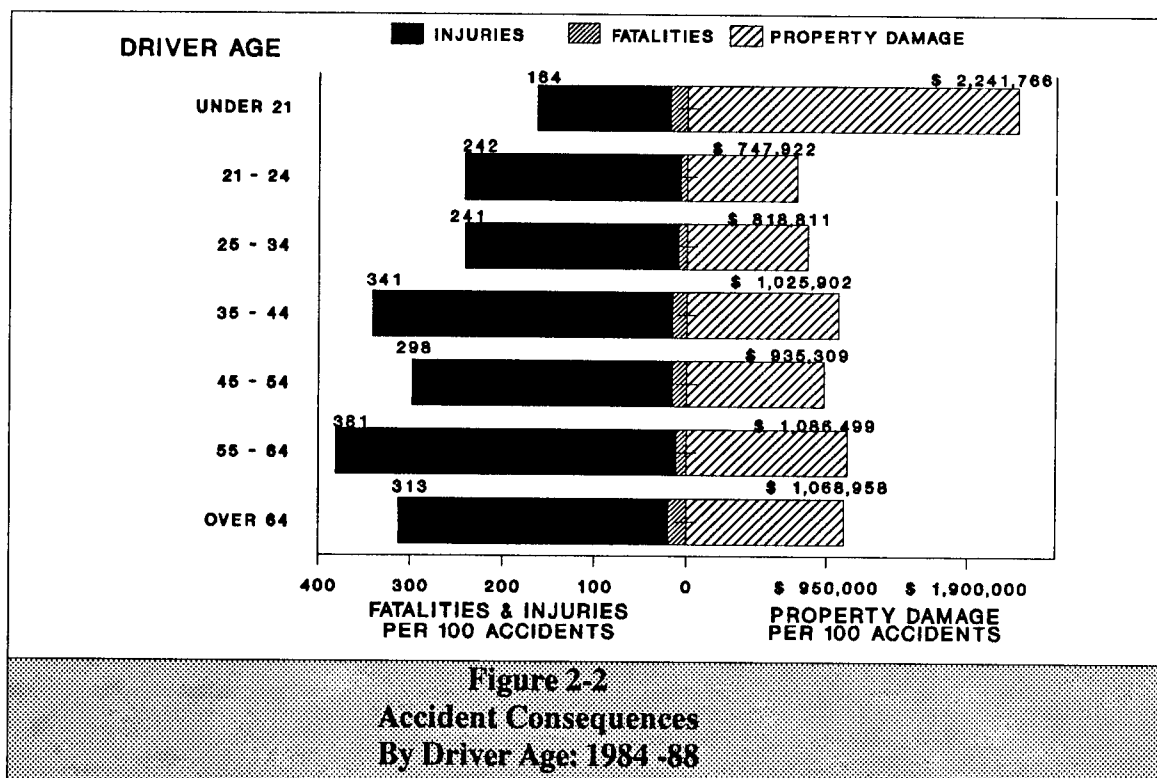
viewed in isolation, do not reveal whether drivers in some age groups are more accident-prone than drivers in other groups. To make such a determination, data on accident occurrences by age group would need to be examined in relation to the total number of drivers within each age category.

ACCIDENTS AND HOURS DRIVEN

As driving time increased, total accidents reported declined (Figure 2-3). Hence, 36 percent of all accidents occurred within 1–2 hours after the last eight-hour period off-duty, 25 percent within 3–4 hours, and 15 percent within 5–6 hours, etc.

Table 2-2
Fatalities and Injuries Among
CPV Occupants and CPV Non-Occupants
Average Per Year: 1984 - 1988

	FATALITIES		INJURIES	
	#	%	#	%
CPV DRIVER	3.0	4.03	84.8	4.93
PASSENGER IN CPV	23.2	31.18	983.4	57.13
PERSON NOT IN CPV	48.2	64.78	653.2	37.96
TOTAL	74.4	99.99	1,721.4	100.00



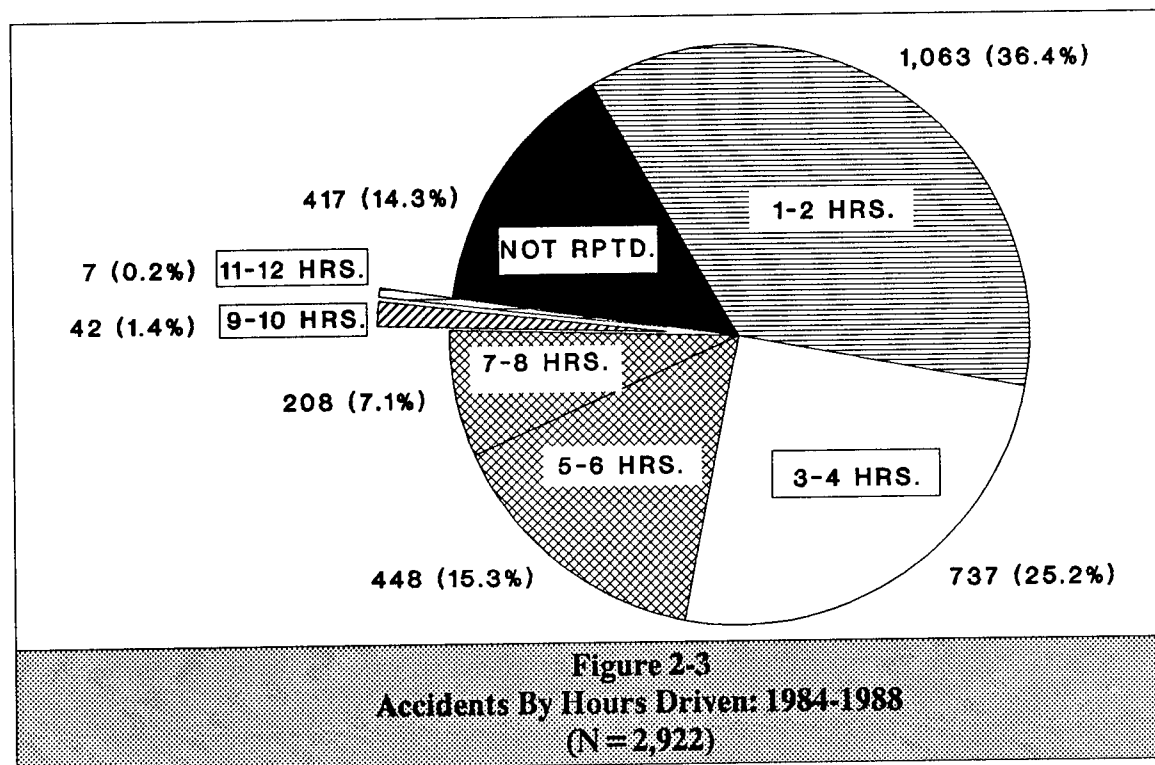
*Accidents Reported By Motor Carriers of Passengers
(1984-1988)*

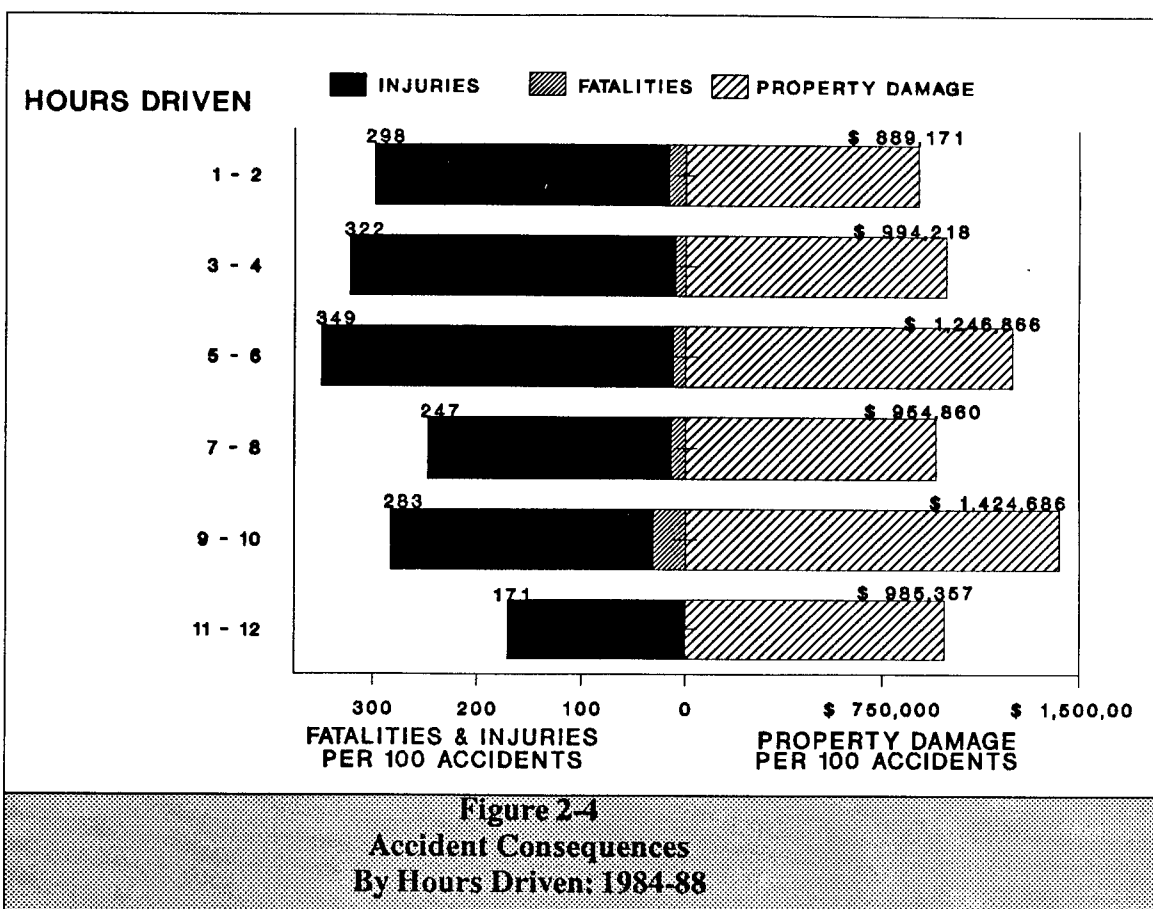
Figure 2-4 compares hours driven and accident severity. As driving time went from 1-2 hours driven to 5-6 hours driven, the fatality/injury rate increased 17 percent (from 298 to 349 incidents per 100 accidents). However, when driving time went to 7-8 hours, the fatality/injury rate decreased 29 percent (to 247 incidents per 100 accidents). The impact of

hours driven on property damage varied between \$ 0.9 million to \$ 1.4 million per 100 accidents for all driving times reported.

Based on these observations, it is not possible to conclude that there is a direct, causal relationship between hours driven and accident severity.

Table 2-3 Accident Type By Hours Driven Average Per Year: 1984 - 1988								
HOURS DRIVEN	COLLISION ACCIDENTS		NON-COLLISION ACCIDENTS		NOT REPORTED		TOTAL ACCIDENTS	
	#	%	#	%	#	%	#	%
1-2 HOURS	194.0	37.07	18.4	30.67	0.2	20.00	212.6	36.38
3-4 HOURS	130.0	24.84	17.0	28.33	0.4	40.00	147.4	25.22
5-6 HOURS	81.2	15.51	8.4	14.00	0.0	0.00	89.6	15.33
7-8 HOURS	37.6	7.18	4.0	6.67	0.0	0.00	41.6	7.12
9-10 HOURS	7.2	1.38	1.2	2.00	0.0	0.00	8.4	1.44
11-12 HOURS	1.2	0.23	0.2	0.33	0.0	0.00	1.4	0.24
HOURS NOT RPTD.	72.2	13.79	10.8	18.00	0.4	40.00	83.4	14.27
TOTAL	523.4	100.00	60.0	100.00	1.0	100.00	584.4	100.00





Chapter 3

The Vehicle

Vehicle Type and Length Gross Vehicle Weight Mechanical Defects

The typical vehicle involved in reportable accidents of passenger carriers was a bus. The vehicle was between 20 and 34 feet long, and had a gross vehicle weight between 10,000 and 44,999 pounds. The average accident involving a CPV carrier resulted in no fatalities, but produced three injuries. Vehicle defects were cited as a causal factor in less than 3 out of every 100 reported accidents. Brake failure was most often said to have been the problem when defects were reported.

(Table 3-1). These accidents accounted for 94 percent of all fatalities and injuries, and 95 percent of the property damage, recorded during the reporting period. In contrast, limousines accounted for less than 4 percent of all accidents.

Table 3-2 summarizes the variance in total accidents and accident classes by vehicle length. Over 95 percent of the accidents involved vehicles between 20 and 34 feet in length, and the remaining 5 percent involved vehicles under 20 feet.

VEHICLE TYPE AND LENGTH

Ninety-four percent of the accidents experienced during the reporting period involved buses, as opposed to limousines and other passenger-carrying vehicles

Figure 3-1 examines the relationship between the length of vehicles involved in accidents and accident severity. As expected, the consequences of accidents involving shorter CPV's were less severe than those involving longer vehicles.

Table 3-1
Accidents, Fatalities, Injuries, and Property Damage
By Vehicle Configuration
Average Per Year: 1984 - 1988

VEHICLE TYPE	ACCIDENTS		FATALITIES		INJURIES		PROPERTY DAMAGE	
	#	%	#	%	#	%	\$	%
BUS	546.8	93.57	69.6	93.55	1,610.4	93.55	5,429,539.6	95.27
LIMOUSINE	20.8	3.56	3.2	4.30	55.2	3.21	158,595.6	2.78
OTHER	13.4	2.29	0.2	0.27	39.6	2.30	63,330.0	1.11
NOT RPTD.	3.4	0.58	1.4	1.88	16.2	0.94	47,540.0	0.83
TOTAL	584.4	100.00	74.4	100.00	1,721.4	100.00	5,699,005.2	99.99

Table 3-2 Accident Class Totals By Vehicle Length Average Per Year: 1984 - 1988								
VEHICLE LENGTH	FATAL ACCIDENTS		INJURY ACCIDENTS		PROPERTY DAMAGE ACCIDENTS		TOTAL ACCIDENTS	
	#	%	#	%	#	%	#	%
UNDER 20 FEET	0.8	1.65	17.8	4.64	8.6	5.64	27.2	4.65
20 - 34 FEET	47.8	98.35	365.6	95.36	143.8	94.36	557.2	95.35
TOTAL	48.6	100.00	383.4	100.00	152.4	100.00	584.4	100.00

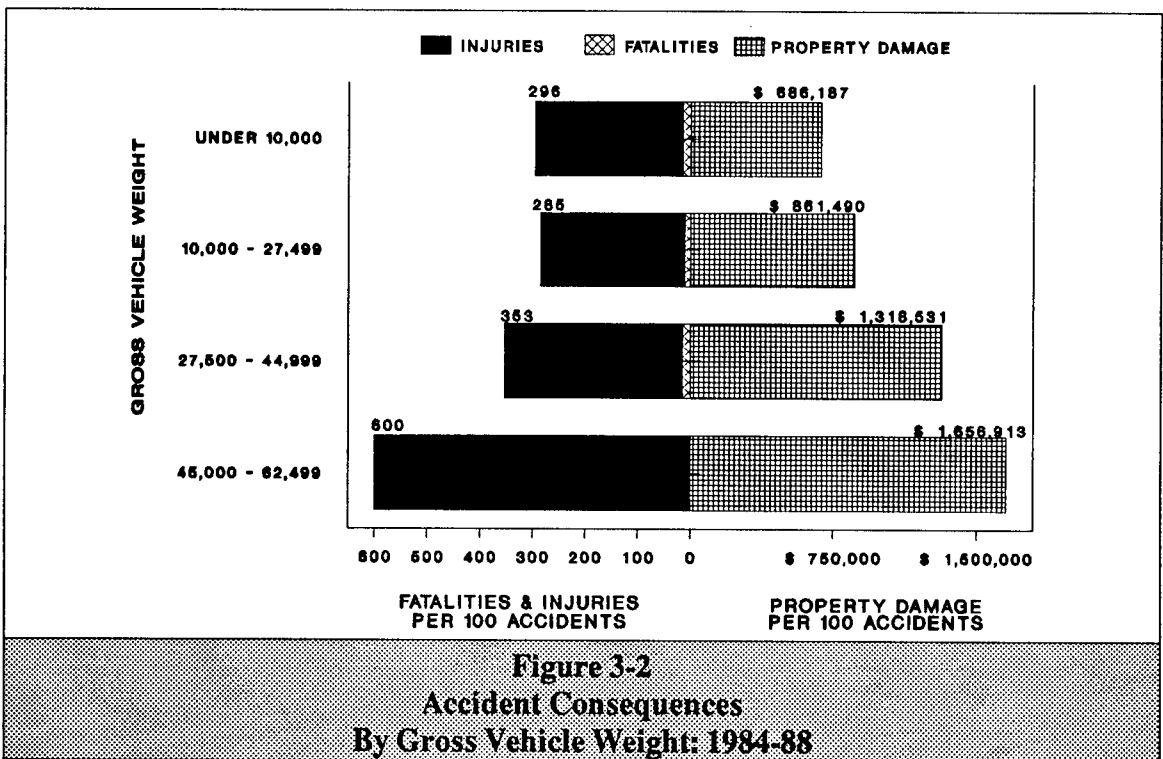
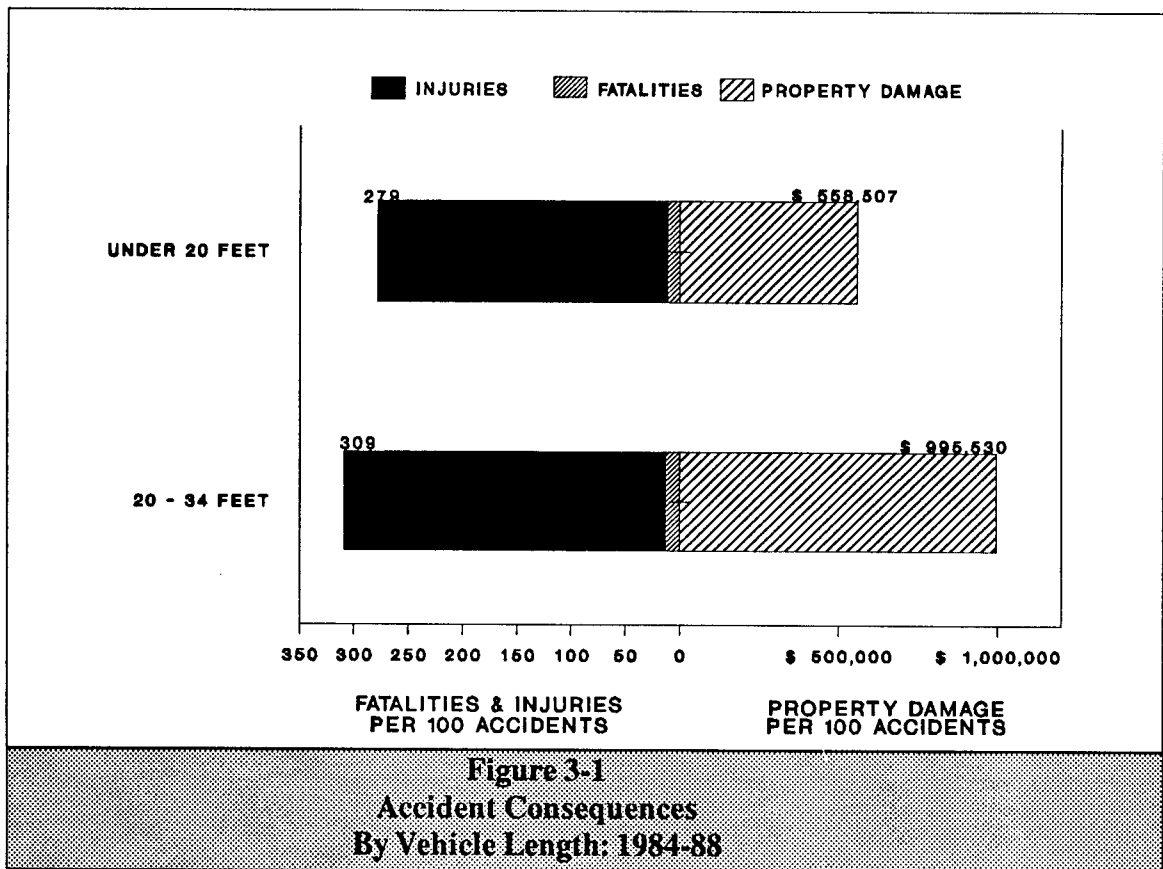
GROSS VEHICLE WEIGHT

The gross vehicle weight (GVW) of CPV's varied from under 10,000 pounds to 62,499 pounds. The majority of all accidents, over 88 percent, involved vehicles between 10,000 and 44,999 pounds. Table 3-3 shows that more than 59 percent of all accidents involved vehicles having GVW's between 10,000 and 27,499 pounds; another 28 percent involved GVW's between 27,500 and 45,999 pounds. The data do not reveal whether vehicles in these two weight categories were actually more accident prone, or whether the majority of pas-

senger-carrying vehicles fell into these weight categories, and thus would be expected to be involved in a disproportionate number of total accidents.

Figure 3-2 shows that as GVW increased from 10,000 pounds to 45,000 pounds and higher, the adverse consequences of accidents increased as well. Particularly dramatic was the fatality/injury ratio of 600 for accidents involving CPV's with GVW's of 45,000 pounds or higher. These figures, however, should be examined with caution since total accidents (15) involving the heaviest CPV's over the five-year period was relatively small.

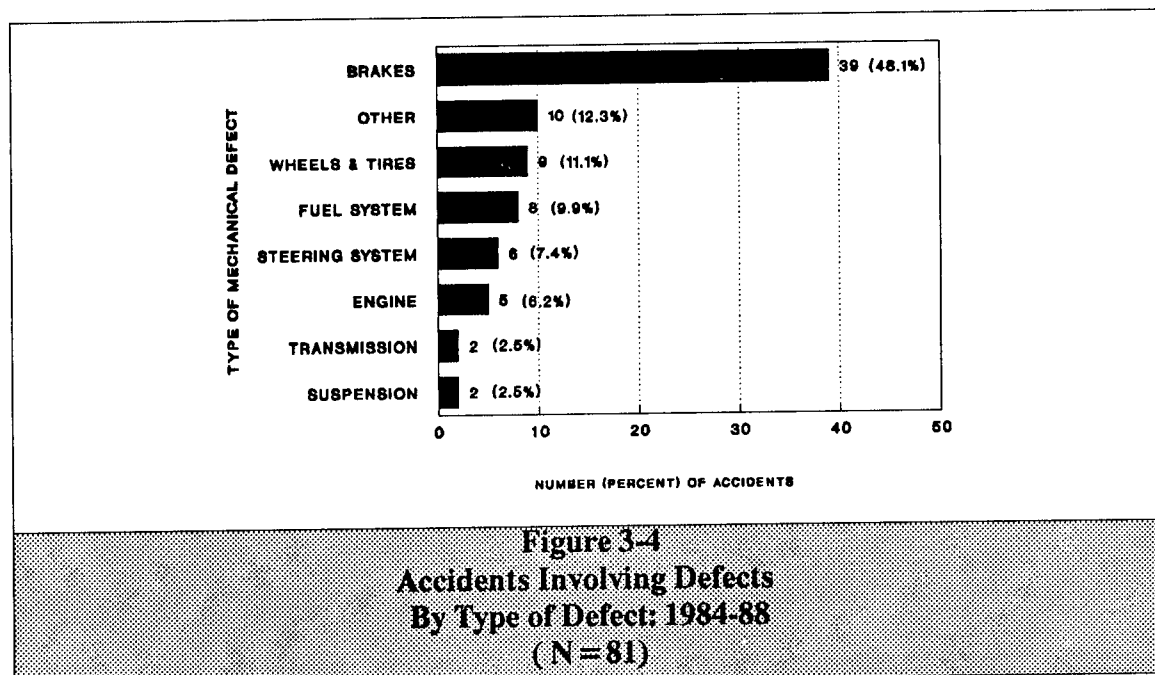
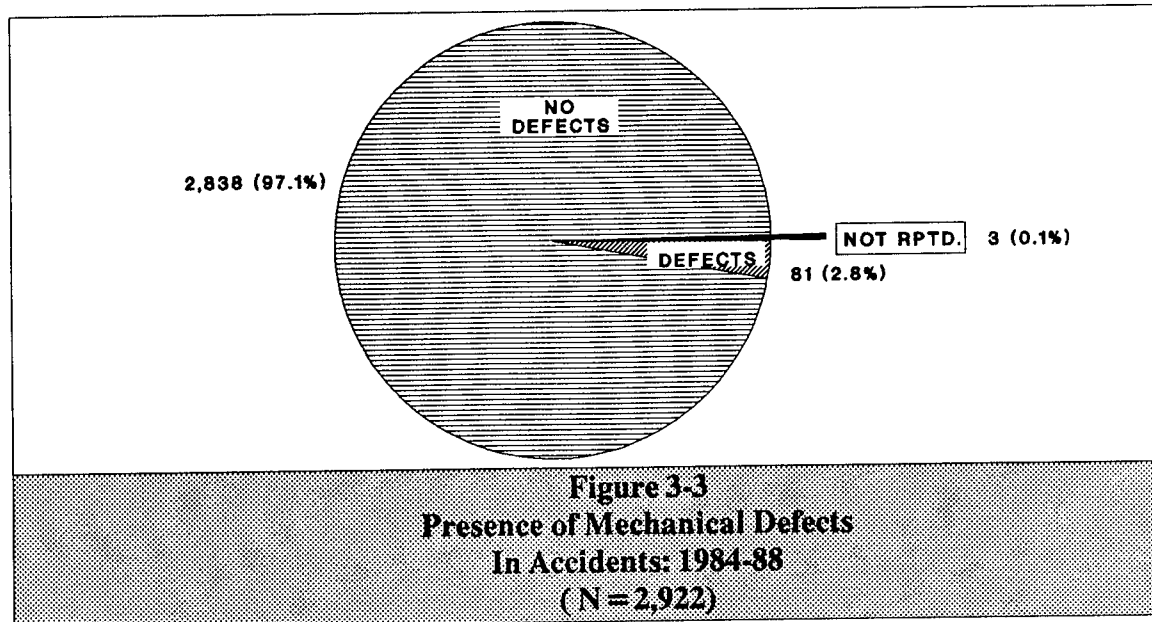
Table 3-3 Accident Class Totals By Gross Vehicle Weight Average Per Year: 1984 - 1988								
GROSS VEHICLE WEIGHT IN LBS.	FATAL ACCIDENTS		INJURY ACCIDENTS		PROPERTY DAMAGE ACCIDENTS		TOTAL ACCIDENTS	
	#	%	#	%	#	%	#	%
UNDER 10,000	2.6	5.35	45.8	11.95	17.4	11.42	65.8	11.26
10,000-27,499	27.0	55.56	229.8	59.94	93.4	61.29	350.2	59.92
27,500-44,999	19.0	39.09	105.8	27.60	40.6	26.64	165.4	28.30
45,000-62,499	0.0	0.00	2.0	0.52	1.0	0.66	3.0	0.51
TOTAL	48.6	100.00	383.4	100.01	152.4	100.01	584.4	99.99



MECHANICAL DEFECTS

Less than 3 percent of all the CPV carriers reporting accidents said that their vehicles exhibited mechanical defects or failures at the time of the accident (Fig-

ure 3-3). Figure 3-4 indicates that when mechanical defects were cited, brake failures were most often said to be the cause of the accidents (48 percent). Suspension system and transmission failures were cited least frequently.



Chapter 4 THE ACCIDENT SETTING

Accident Locale Environmental Conditions Time of Day Day of Week and Month of Year

The typical accident occurred during the months of January or May, on a weekday during the A.M. or P.M. rush hours. At the time of the accident, weather and road conditions were favorable. The accident happened while the CPV was travelling on a divided or undivided highway during intercity operation. When the accident occurred, persons not in the CPV were generally less likely to be killed or injured than were CPV occupants.

ACCIDENT LOCALE

Figure 4-1 shows that a larger proportion of the CPV accidents reported between 1984-88 occurred in business districts (46 percent) than in rural districts (37 percent). Table 4-1 indicates that nearly equal numbers of accidents happened on undivided highways (49 percent) and divided highways (47 percent).

However, Table 4-1 also reveals that a slightly larger proportion of fatal accidents occurred on undivided highways (50 percent) than on divided highways (46 percent).

Only 5.5 percent of the reported accidents occurred on expressway entrance and exit ramps (Table 4-2).

ENVIRONMENTAL CONDITIONS

Figure 4-2 examines the relationship between weather, road surface, and light conditions. When a carrier reported rain, snow, sleet, fog, or smog at the time of the accident, the weather conditions were classified as "unfavorable." Similarly, when a carrier characterized roads as wet, snowy, or icy, road surface conditions were classified as "unfavorable."

Of all CPV accidents for which environmental conditions were reported during the reporting period, 64 percent occurred in daylight, 27 percent in the dark, 7 percent at dawn or dusk, and 1 percent under artificial light. Nearly 7 out of 10 accidents occurred under favorable weather/favorable road conditions. In fact, nearly 5 out of every 10 reported CPV accidents took place in daylight under favorable weather/favorable road conditions.

*Accidents Reported By Motor Carriers of Passengers
(1984-1988)*

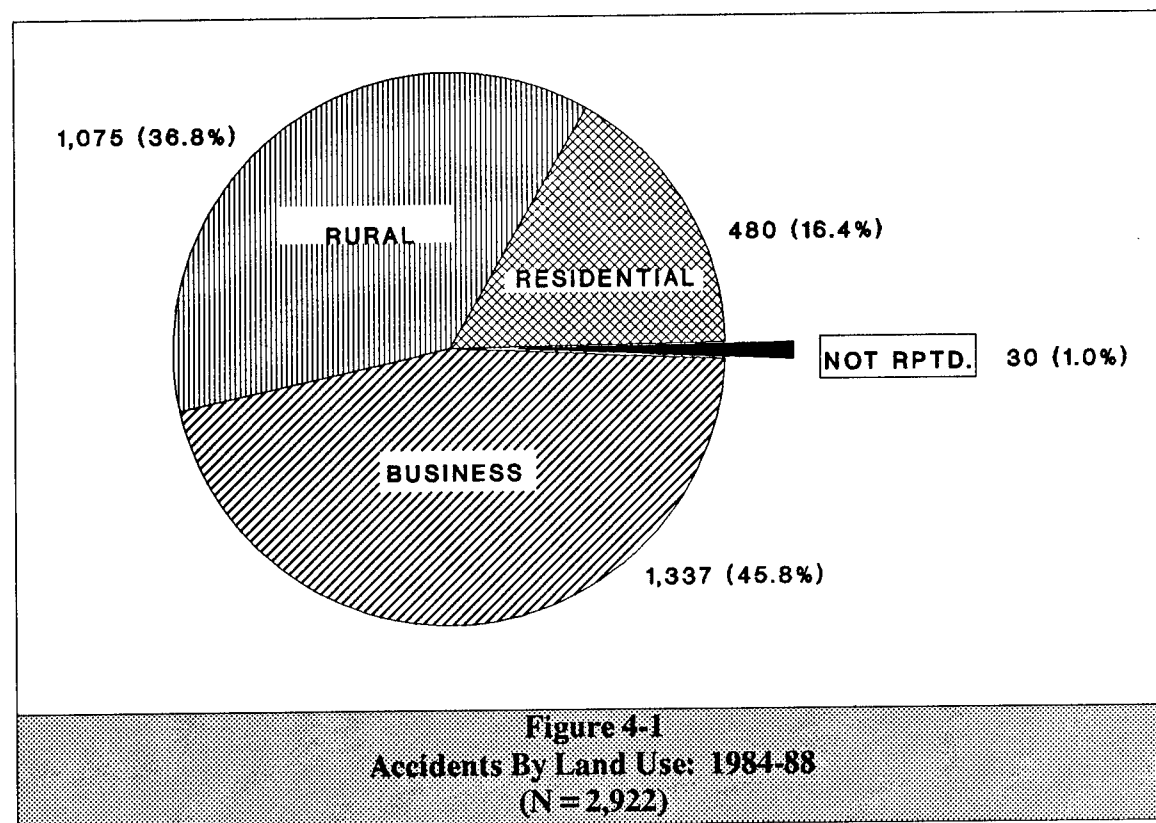


Table 4-1 Accident Class Totals By Highway Type Average Per Year: 1984 - 1988								
HIGHWAY TYPE	FATAL ACCIDENTS		INJURY ACCIDENTS		PROPERTY DAMAGE ACCIDENTS		TOTAL ACCIDENTS	
	#	%	#	%	#	%	#	%
DIVIDED	22.2	45.68	179.6	46.84	73.0	47.90	274.8	47.02
UNDIVIDED	24.4	50.21	190.4	49.66	68.6	45.01	283.4	48.49
TYPE NOT RPTD.	2.0	4.12	13.4	3.50	10.8	7.09	26.2	4.48
TOTAL	48.6	100.01	383.4	100.00	152.4	100.00	584.4	99.99

Table 4-2 Expressway Ramp Accidents Average Per Year: 1984 - 1988								
	FATAL ACCIDENTS		INJURY ACCIDENTS		PROPERTY DAMAGE ACCIDENTS		TOTAL ACCIDENTS	
	#	%	#	%	#	%	#	%
NOT APPLICABLE	47.6	97.94	364.4	95.04	145.4	95.41	557.4	95.38
ENTRANCE RAMP	0.6	1.23	9.2	2.40	3.8	2.49	13.6	2.33
EXIT RAMP	0.2	0.41	9.4	2.45	3.2	2.10	12.8	2.19
NOT REPORTED	0.2	0.41	0.4	0.10	0.0	0.00	0.6	0.10
TOTAL	48.6	99.99	383.4	99.99	152.4	100.00	584.4	100.00

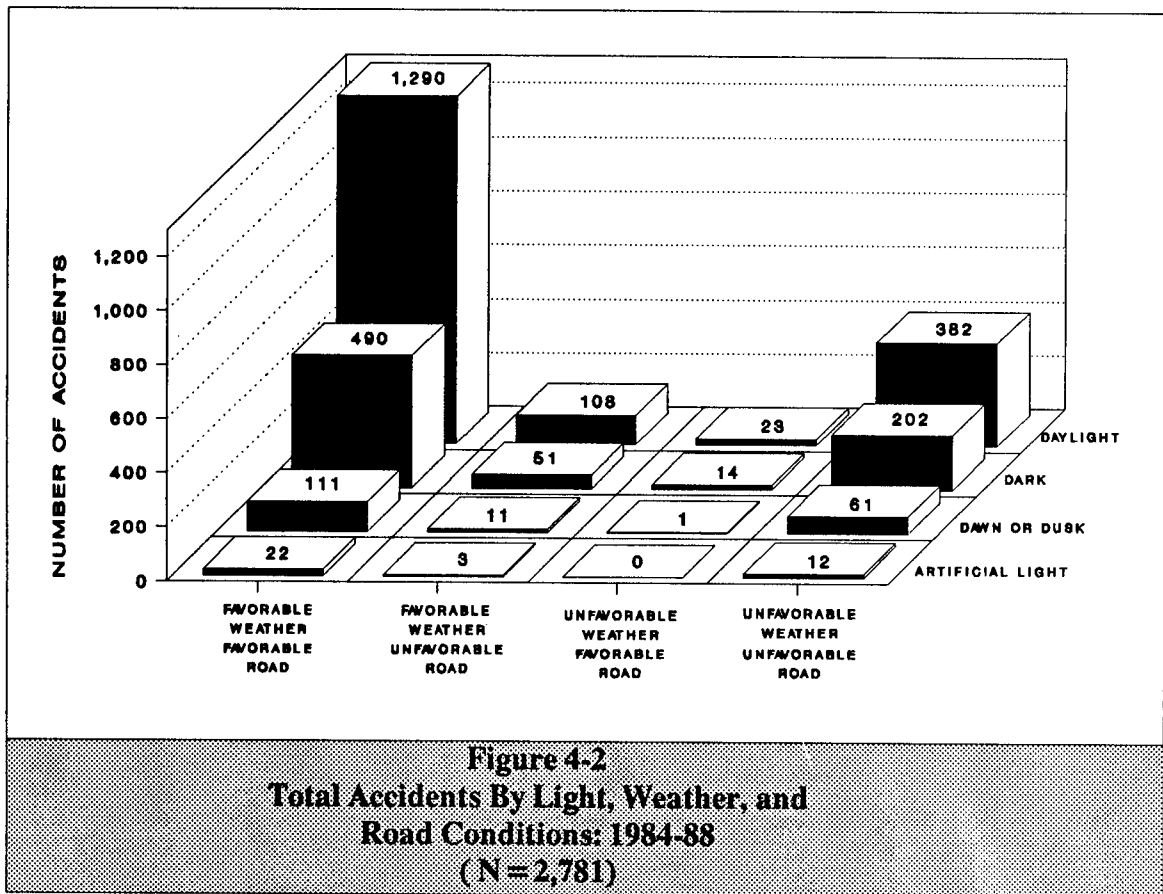
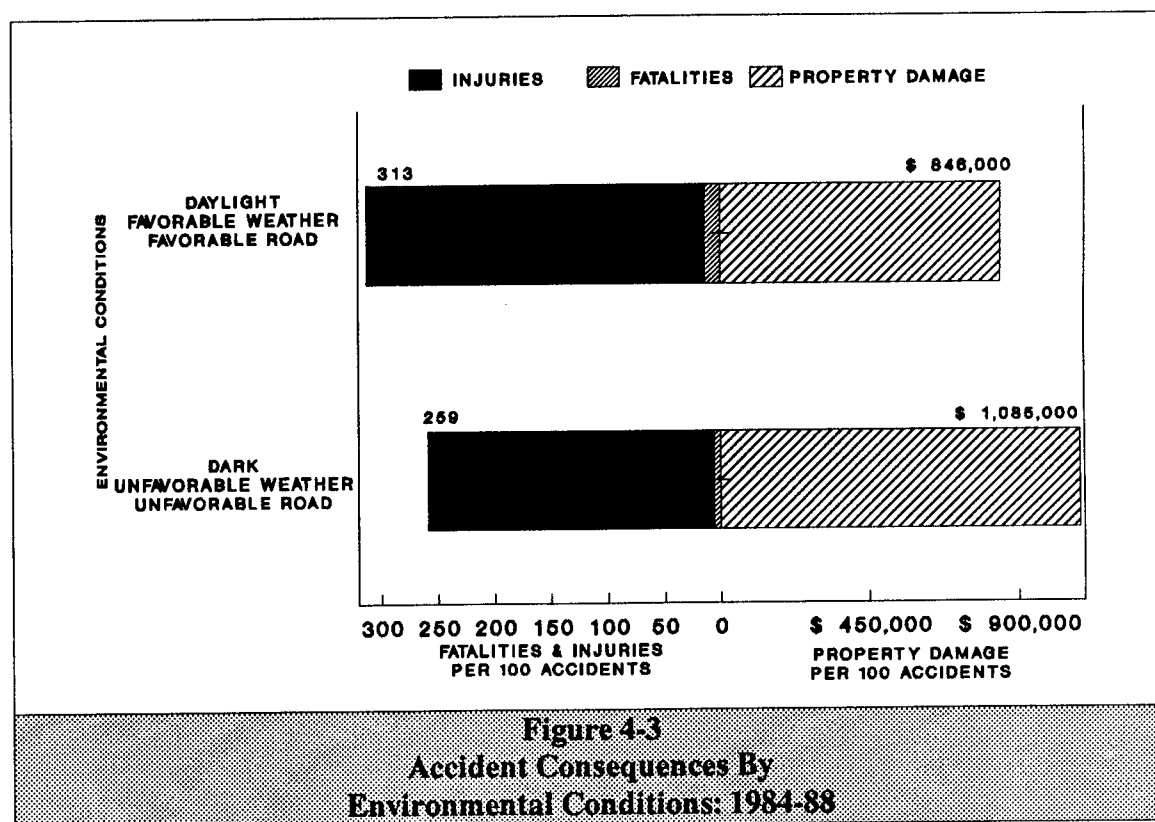


Figure 4-3 compares accident consequences generated during daylight under favorable weather/favorable road conditions to those produced in the dark under unfavorable weather/unfavorable road conditions. Interestingly, accidents which occurred under ideal environmental conditions resulted in more fatalities/injuries (313 per 100 accidents) than did accidents which happened under adverse conditions (259 per 100 accidents). Was this because drivers were more cautious—and drove slower—under adverse environmental conditions so that accidents, even when they occurred, were less severe? Or was it simply

that there was less traffic on the highways—and consequently fewer opportunities for collisions—when environmental conditions were poorest? In examining these data, it should be remembered that they are based on the environmental conditions occurring at the time of the accidents, as reported by the carriers themselves. There is, of course, the possibility that reports of favorable weather/favorable road conditions were exaggerated, given that the *FMCSRs* (49 CFR 392.14) specifically prohibit the operation of commercial vehicles under "sufficiently dangerous" conditions.



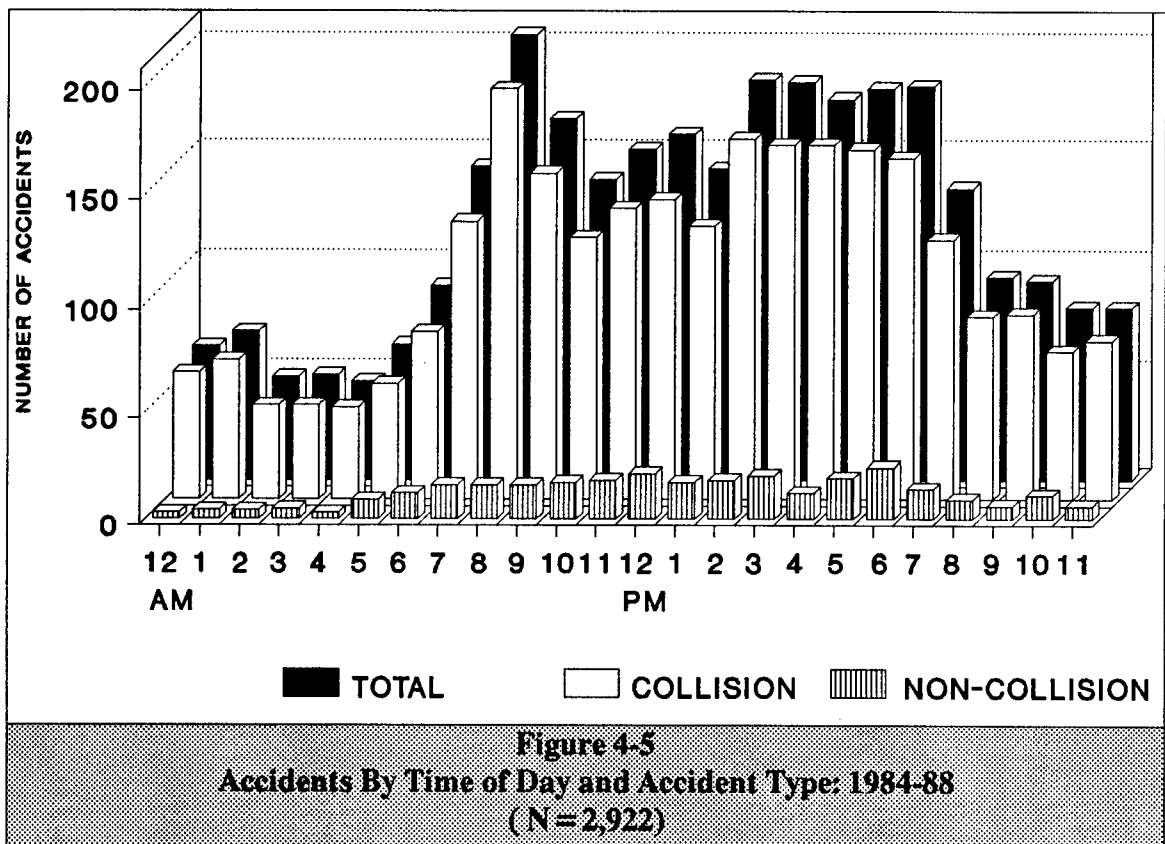
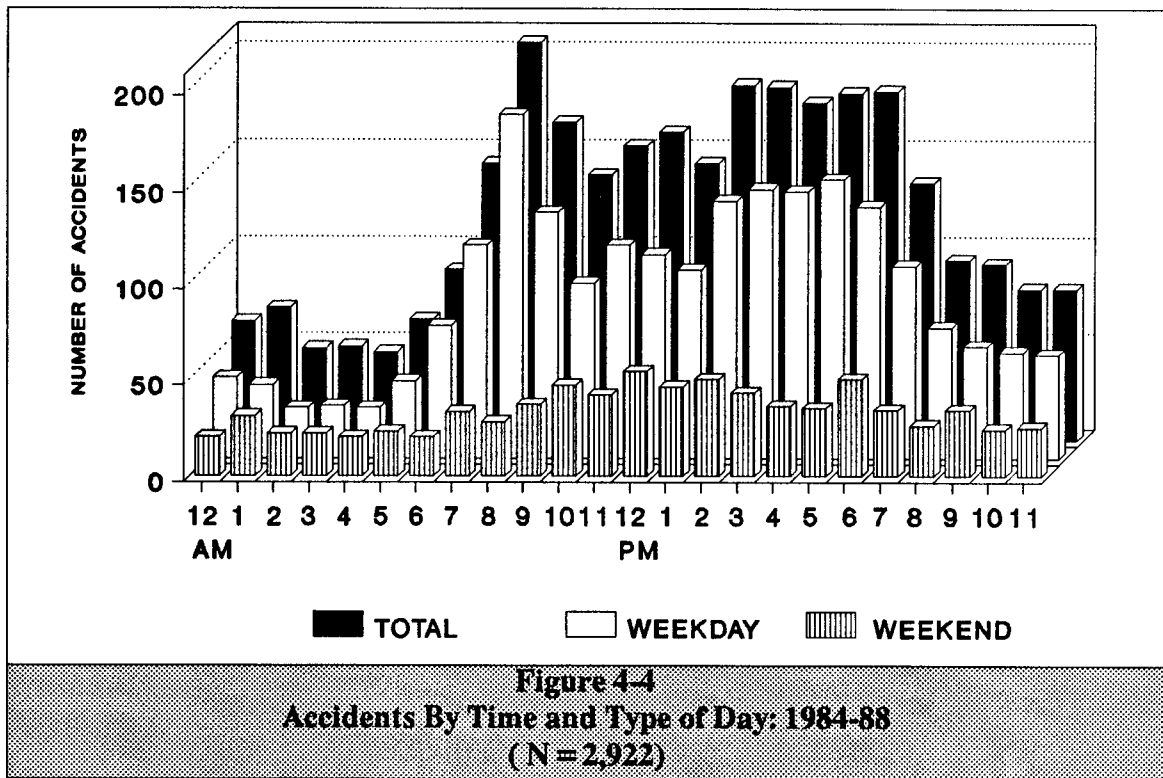
TIME OF DAY

Seven out of every 10 CPV carrier accidents recorded during the reporting period occurred between 7 a.m. and 7 p.m., the hours during which traffic normally flowed its heaviest. The fewest accidents occurred during the evening and early morning hours, 8 p.m. to 6 a.m.

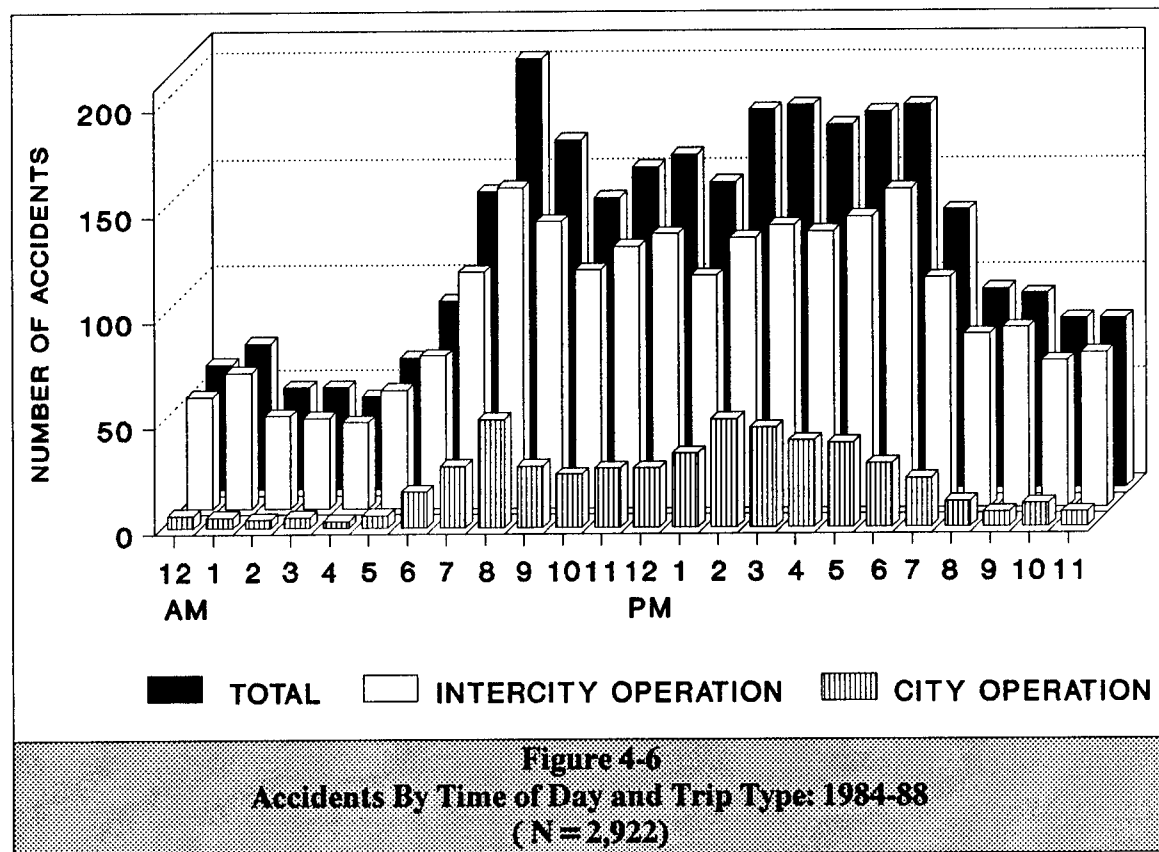
Figures 4-4 through 4-6 compare accident experience by time of day. On weekdays, total accidents appeared to fluctuate with the general flow of traffic, peaking at 8 a.m. and again at 2 p.m. to 6 p.m. (Figure 4-4); not surprisingly, counts of weekend accidents showed less variability, regardless of time of day. Collision accidents (Figure 4-5) peaked at 8 a.m. and between 2 p.m. to 6 p.m., whereas non-collision accident counts

were uniformly high from 7 a.m. to 6 p.m. Reported accidents involving vehicles operated on intercity routes and city operation routes occurred at a higher rate during the day than at night (Figure 4-6). This was less true for intercity accidents, however.

Figure 4-7 examines fatalities/injuries for CPV occupants and non-occupants by time of day. In general, the data show that CPV occupants were far more likely to be killed or injured in accidents which occurred during the predawn hours. For instance, CPV occupants were four times more likely to be killed or injured in accidents which happened between 1 and 6 a.m. than between 1 and 6 p.m. The pattern for CPV non-occupants was similar, though less pronounced: persons not in the CPV at the time of the accident were



*Accidents Reported By Motor Carriers of Passengers
(1984-1988)*



nearly twice as likely to be killed or injured between 1 and 6 a.m. than between 1 and 6 p.m.

Table 4-3 displays total accidents, fatalities, injuries, and property damage by carrier type and month.

DAY OF WEEK AND MONTH OF YEAR

Figures 4-8 and 4-9 compare the percentages of accidents by day of week and month of year, respectively. Fewer accidents involving CPV's occurred on Tuesdays and Sundays, than on other days of the week (Figure 4-8). Also, the greatest numbers of accidents were reported for the months of January, May, and October; the fewest accidents occurred in April, August, and September (Figure 4-9).

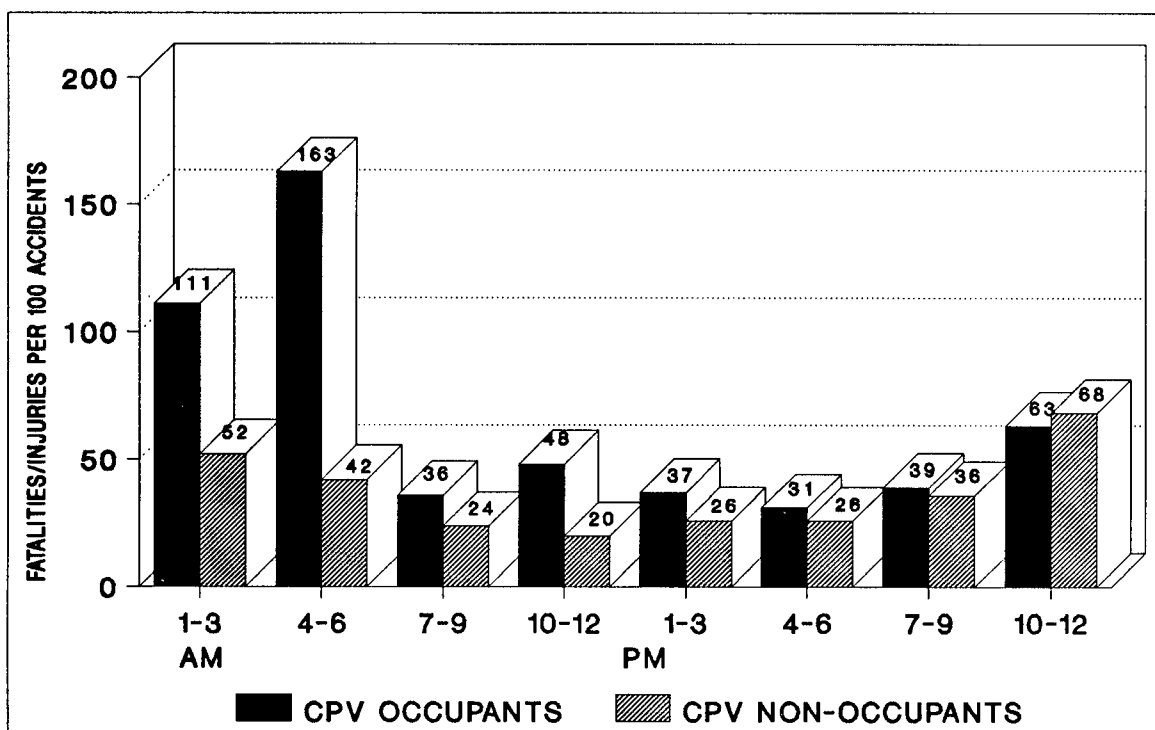


Figure 4-7
Fatalities and Injuries By
Time of Day: 1984-88

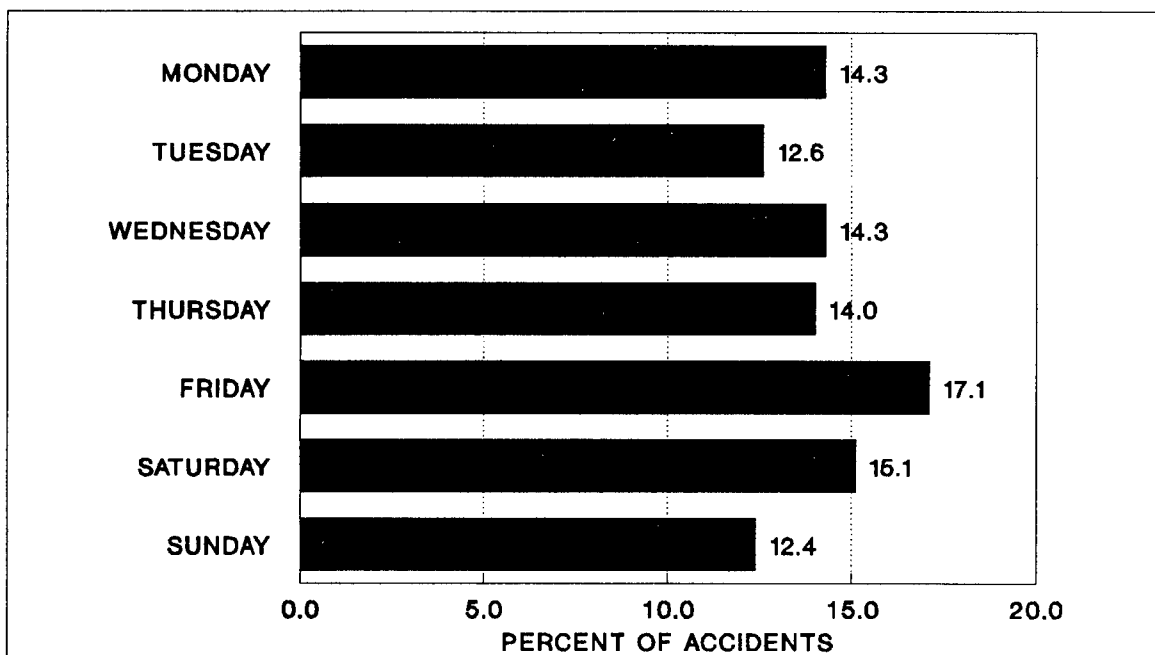


Figure 4-8
Percent of Total Accidents By Day of Week: 1984-88
(N = 2,922)

*Accidents Reported By Motor Carriers of Passengers
(1984-1988)*

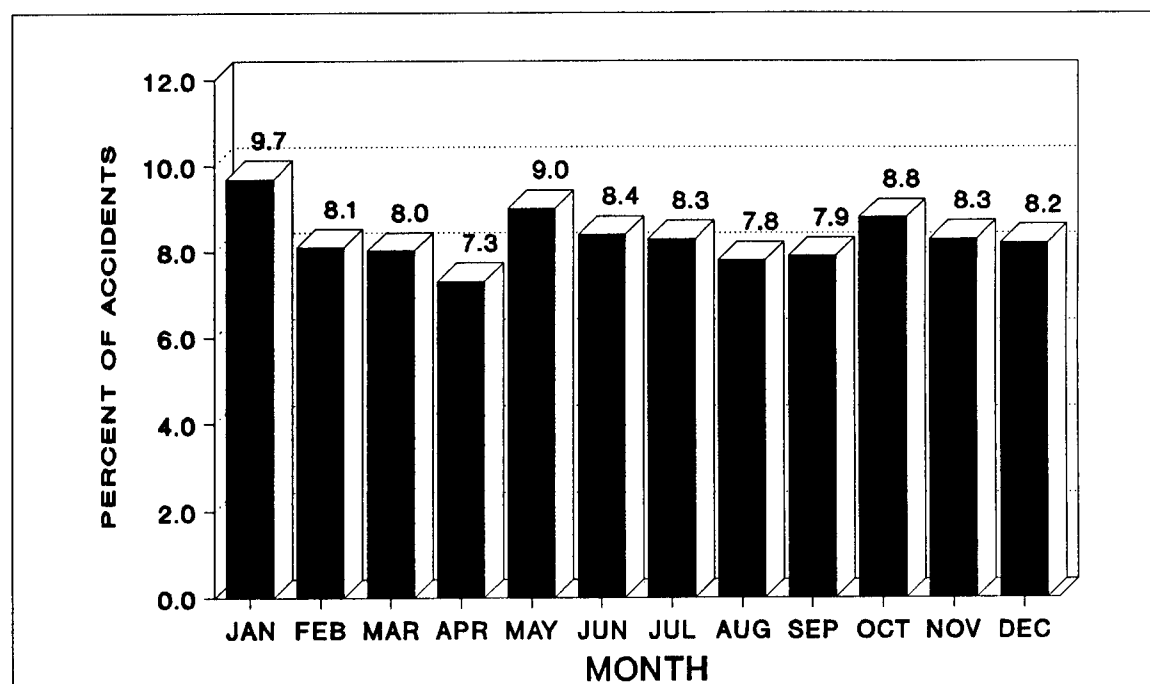


Figure 4-9
Percent of Total Accidents By Month: 1984-88
(N = 2,922)

Table 4-3
Accidents, Fatalities, Injuries, and Property Damage
By Carrier Type and Month
Average Per Year: 1984 - 1988

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
ACCIDENTS													
FOR-HIRE	47.0	37.0	37.0	32.0	44.6	40.0	40.4	38.6	36.8	40.2	38.4	37.6	469.6
OTHER	4.6	3.6	4.2	4.0	2.2	3.0	3.0	1.2	3.2	4.6	2.6	1.6	37.8
TYPE NOT RPTD.	4.8	6.6	5.4	6.4	5.8	6.2	5.0	5.6	6.4	6.4	7.6	8.6	74.8
TOTAL	56.4	47.2	46.6	42.4	52.6	49.2	48.4	45.4	46.4	51.2	48.6	47.8	582.2
FATALITIES													
FOR-HIRE	3.4	3.6	3.4	2.4	9.2	2.8	5.0	7.0	4.8	10.2	3.2	4.0	59.0
OTHER	0.2	0.6	0.4	0.6	0.0	0.2	0.4	0.0	0.0	0.4	0.2	0.2	3.2
TYPE NOT RPTD.	0.6	0.8	0.4	0.6	2.2	1.6	0.6	0.0	1.8	0.6	0.4	1.8	11.4
TOTAL	4.2	5.0	4.2	3.6	11.4	4.6	6.0	7.0	6.6	11.2	3.8	6.0	73.6
INJURIES													
FOR-HIRE	106.2	112.4	101.2	94.8	135.2	122.2	156.6	109.8	104.2	128.6	84.6	119.0	1,376.8
OTHER	12.0	9.2	13.2	23.6	5.6	13.6	5.2	1.4	6.4	35.6	5.0	12.8	144.0
TYPE NOT RPTD.	9.4	17.6	9.4	12.4	14.0	17.0	5.6	7.6	42.0	19.6	27.0	16.6	198.4
TOTAL	127.6	139.2	123.8	130.8	154.8	153.0	169.4	119.0	152.6	184.0	116.6	148.4	1,719.2
PROPERTY DAMAGE*													
FOR-HIRE	414.9	338.7	342.2	278.4	595.7	272.7	480.4	267.2	371.1	374.8	391.1	333.9	4,461.2
OTHER	35.0	6.4	21.1	54.8	2.6	19.5	33.3	25.3	5.8	8.4	14.1	7.9	234.2
TYPE NOT RPTD.	48.9	81.8	61.1	45.4	105.5	96.0	46.6	56.3	96.7	71.3	159.1	116.1	984.7
TOTAL	498.8	426.9	424.4	378.6	703.8	388.2	560.3	348.8	473.6	454.5	564.3	457.9	5,680.1

* IN THOUSANDS
(000'S) OF DOLLARS

Chapter 5

THE ACCIDENT

Accident Type Overview Collision Accidents Non-Collision Accidents

The typical accident entailed a collision between a commercial passenger vehicle and an automobile. More than 7 out of every 10 reported collisions resulted in one or more fatalities or injuries. In general, accident severity appeared to be determined by a variety of factors, including what the CPV was doing just prior to the accident. For instance, when the CPV reportedly "rolled away," the ensuing collision tended to be the most severe. Non-collisions involving overturned vehicles, though rare, also tended to be severe.

ACCIDENT TYPE OVERVIEW

Ninety percent of the CPV accidents reported between 1984 and 1988 involved collisions. Overall, collision accidents were responsible for 90 percent of the fatalities, 88 percent of the injuries, and 82 percent of the property damage reported. Table 5-1 breaks down accidents and their consequences by accident type.

Percentage breakdowns of collision, non-collision, and total accidents by accident class are shown in Figure 5-1.

Table 5-1 Accidents, Fatalities, Injuries, and Property Damage By Accident Type Average Per Year: 1984 - 1988						
	COLLISIONS		NON-COLLISIONS		TOTAL	
	#	%	#	%	#	%
ACCIDENTS						
FATAL	45.8	94.24	2.8	5.76	48.6	100.00
INJURY	336.6	87.75	47.0	12.25	383.6	100.00
PROPERTY DAMAGE	141.8	92.92	10.8	7.08	152.6	100.00
TOTAL	524.2	89.64	60.6	10.36	584.8	100.00
FATALITIES	66.6	89.52	7.8	10.48	74.4	100.00
INJURIES	1,508.6	87.63	213.0	12.37	1,721.6	100.00
PROPERTY DAMAGE	\$4,690,153.4	82.30	\$1,008,851.8	17.70	\$5,699,005.2	100.00

*Accidents Reported By Motor Carriers of Passengers
(1984-1988)*

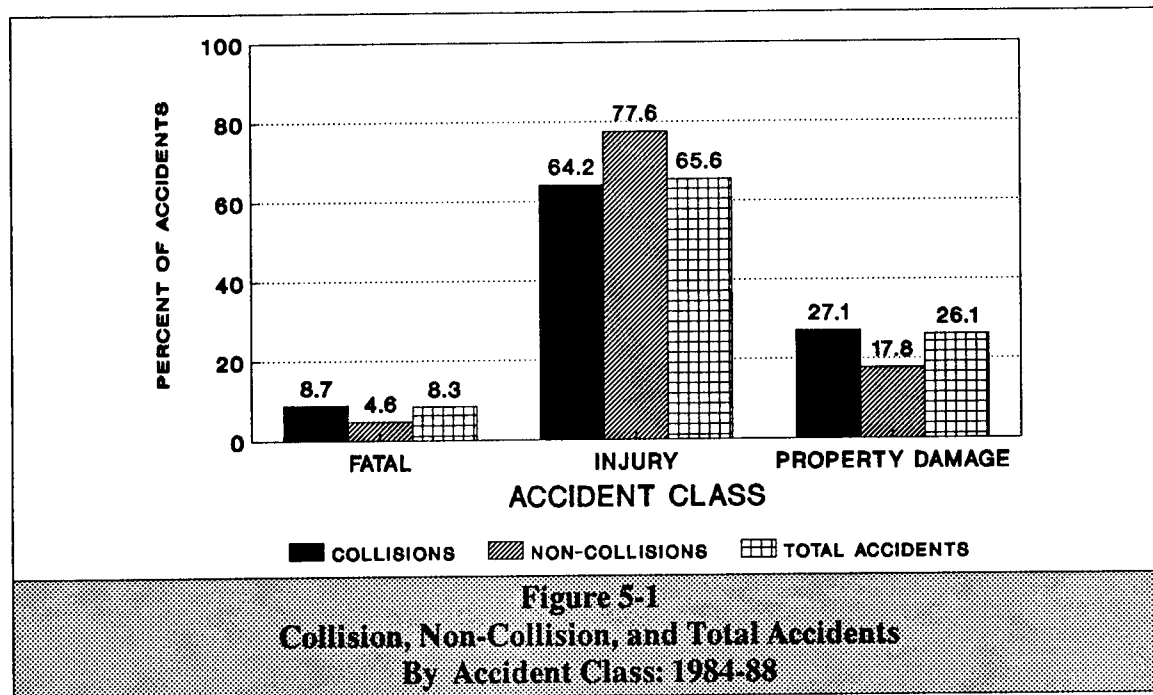


Table 5-2 Accident Consequences By Accident Type Average Per Year: 1984 - 1988			
	FATALITIES #	INJURIES #	PROPERTY DAMAGE \$
PER 100 COLLISION ACCIDENTS	13	288	894,726
PER 100 NON-COLLISION ACCIDENTS	13	351	1,664,772
PER 100 ACCIDENTS	13	294	974,522

Seventy-three percent of the collision accidents resulted in fatalities or injuries, though 82 percent of the non-collision accidents were equally severe. Collisions were nearly twice as likely as non-collisions to result in fatalities; non-collisions, however, were 20 percent more likely to result in injuries than collision accidents.

Accident severity rates are compared by accident type in Table 5-2. While fatalities did not vary by type of accident, injuries and property damage were found

to be greater in non-collision accidents than in collision accidents.

COLLISION ACCIDENTS

Table 5-3 indicates that, during the reporting period, 58 percent of all collision accidents occurred when CPV's and automobiles collided. In fact, CPV/automobile accidents accounted for 38 percent of all collision-induced fatalities, 50 percent of the injuries, and 46 percent of the property damage.

Although CPV/pedestrian accidents comprised less than 8 percent of all collisions, they resulted in nearly 18 percent of the collision-induced fatalities.

Similarly, CPV/commercial truck accidents accounted for just 12 percent of collisions, but more than 18 percent of the collision-induced injuries.

Table 5-3
Collision Accidents, Fatalities, Injuries, and Property Damage
By Type of Collision
Average Per Year: 1984 - 1988

	ACCIDENTS		FATALITIES		INJURIES		PROPERTY DAMAGE	
	#	%	#	%	#	%	\$	%
OTHER OBJECT INVOLVED								
COMMERCIAL TRUCK	62.6	11.94	7.8	11.71	277.8	18.41	1,210,672.8	25.81
FIXED OBJECT	34.8	6.64	2.6	3.90	83.8	5.55	499,296.4	10.65
AUTOMOBILE	305.2	58.22	25.4	38.14	755.0	50.05	2,161,032.0	46.08
PEDESTRIAN	38.6	7.36	12.2	18.32	57.6	3.82	16,874.4	0.36
CPV	26.2	5.00	0.8	1.20	196.8	13.05	283,864.6	6.05
TRAIN	0.8	0.15	0.0	0.00	3.8	0.25	22,900.0	0.49
BICYCLIST	6.2	1.18	1.0	1.50	7.0	0.46	2,897.0	0.06
ANIMAL	2.8	0.53	0.0	0.00	3.2	0.21	30,229.0	0.64
MOTORCYCLE	6.0	1.14	2.4	3.60	7.6	0.50	23,419.6	0.50
OTHER/NOT RPTD.	41.0	7.82	14.4	21.62	116.0	7.69	438,967.6	9.36
TOTAL	524.2	99.98	66.6	99.99	1,508.6	99.99	4,690,153.4	100.00

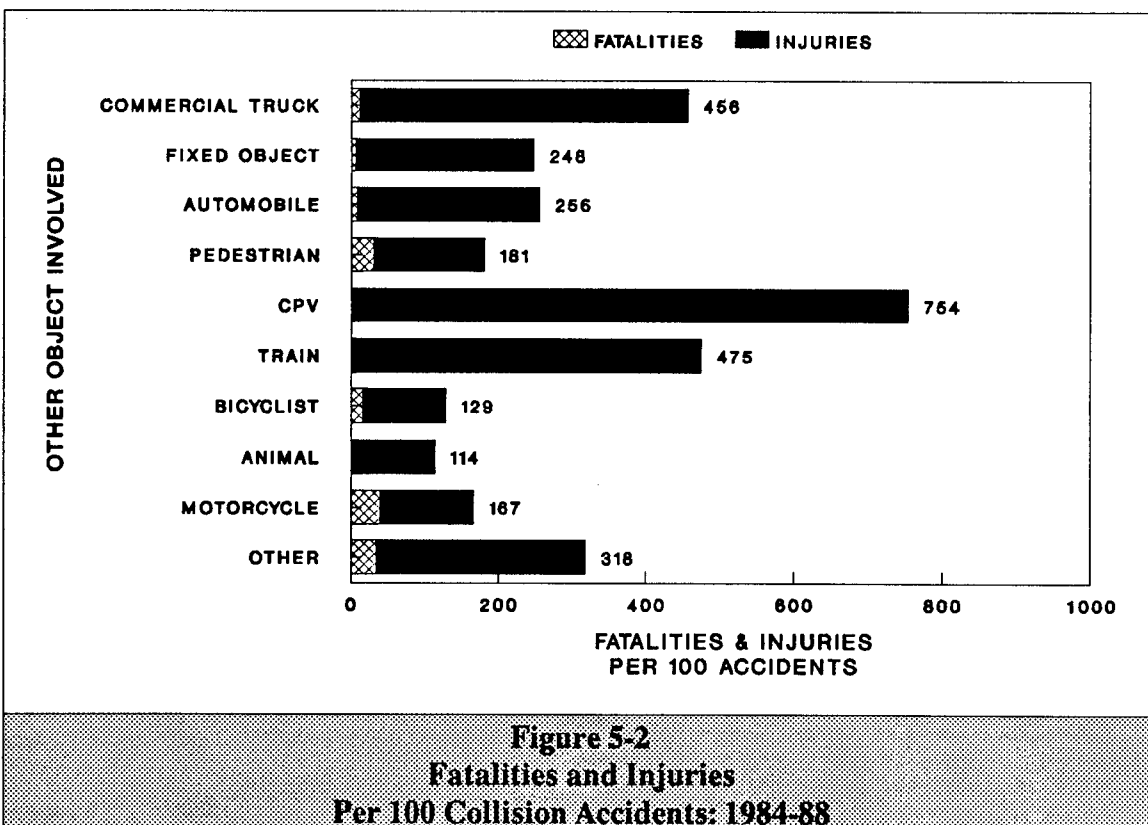


Figure 5-2 examines fatalities/injuries per 100 accidents for collisions involving different combinations of vehicles, persons, and objects. CPV/CPV accidents were the most severe, generating 754 fatalities/injuries per 100 accidents. One might reasonably infer that this was due largely to the disproportionately high number of bus passengers potentially exposed whenever bus/bus accidents occurred.

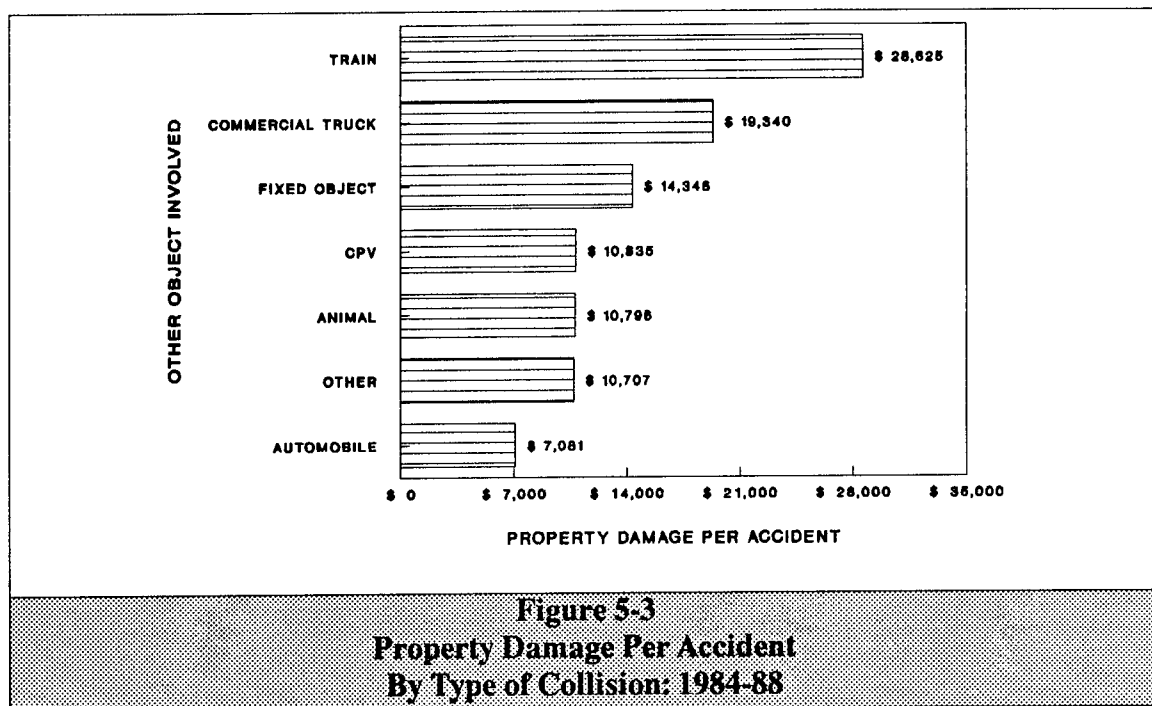
Accidents also tended to be very severe when CPV's collided with commercial trucks and trains. These accidents generally resulted in higher rates of fatalities per accident than did CPV collisions with animals, bicyclists, and pedestrians.

The estimated value of property damaged in collisions tended to vary according to the value of the property potentially exposed in each accident.

Thus, the average value of property damaged in CPV/train collisions was considerably higher than the value of property damaged in CPV/truck collisions (Figure 5-3). Similarly, the average value of property damaged in CPV/CPV collisions was more than that damaged in truck/automobile collisions.

Accident severity by the types of "movement" in which CPV's were engaged just before the collisions occurred is summarized in Figure 5-4. In general, accidents were most severe when the passenger vehicles were reported to have "rolled away," crossed into opposing lanes of traffic, or entered "uncontrolled" railroad crossings.

In reviewing the data in Figure 5-4, note that the vehicle movements shown pertain to the CPV's only; the movements of other vehicles involved in the accidents are not presented.



NON-COLLISION ACCIDENTS

As indicated in Table 5-4, non-collision accidents which occurred during the reporting period were the result of one of three identifiable actions: CPV's running off the road (24 percent), CPV fires (13 percent), and CPV overturns (7 percent). Overturns and CPV's running off the road accounted for nearly 4 out of every 5 non-collision fatalities and injuries.

Non-collision accident severity rates ranged from 10 fatalities/injuries per 100 accidents when fires were the primary accident event, to 751 fatalities/injuries per 100 accidents when CPV's ran off the road, to 1,395 fatalities per 100 accidents when CPV's overturned (Figure 5-5). Although fires were the least severe type of non-collision accident, they were the most costly in terms of property damage, averaging \$73,000 per accident (Figure 5-6).

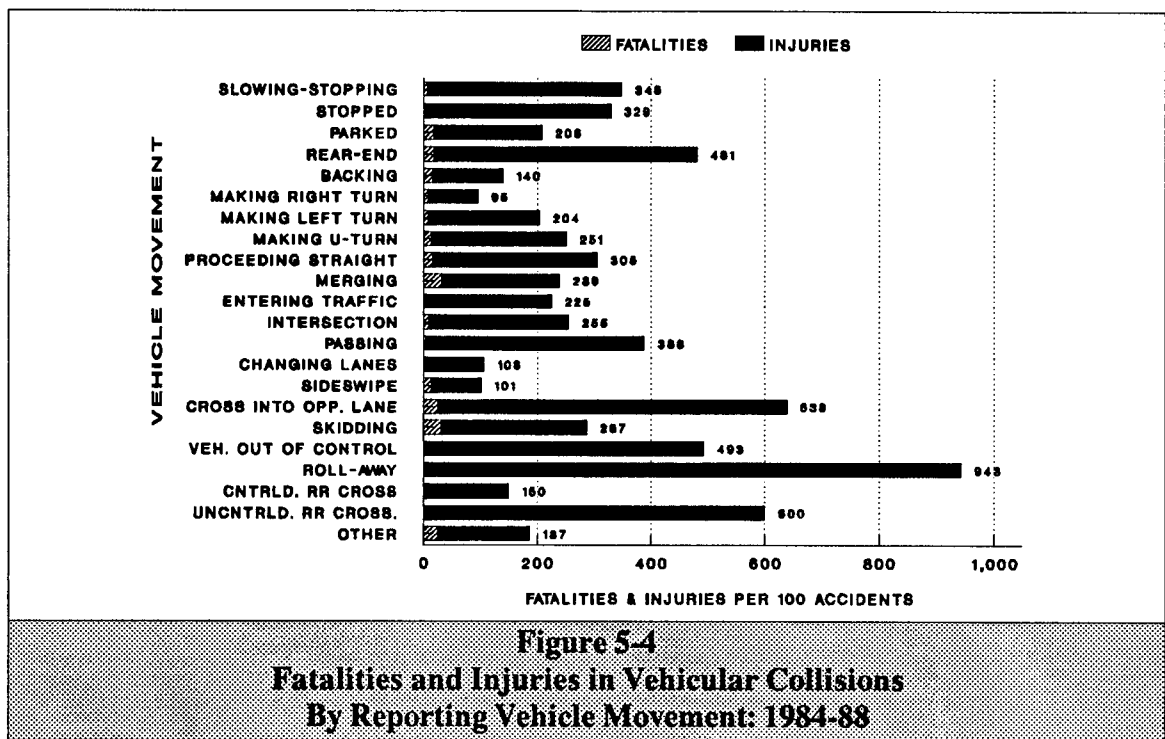
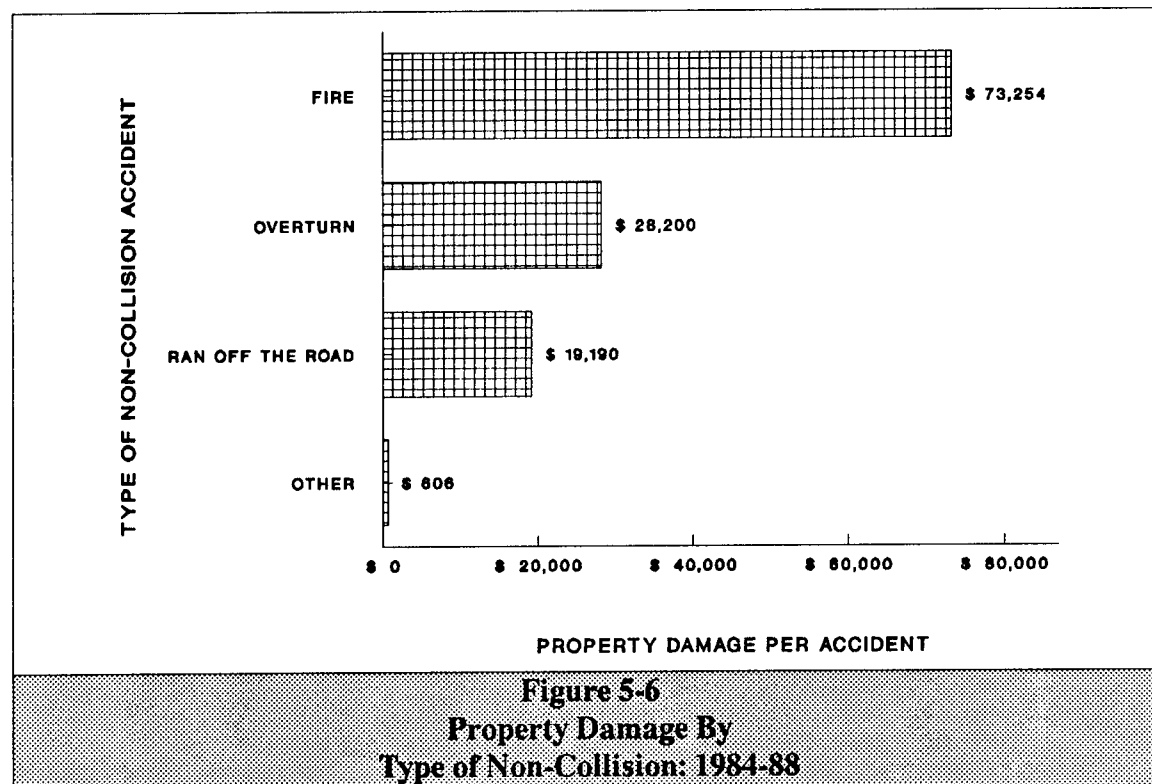
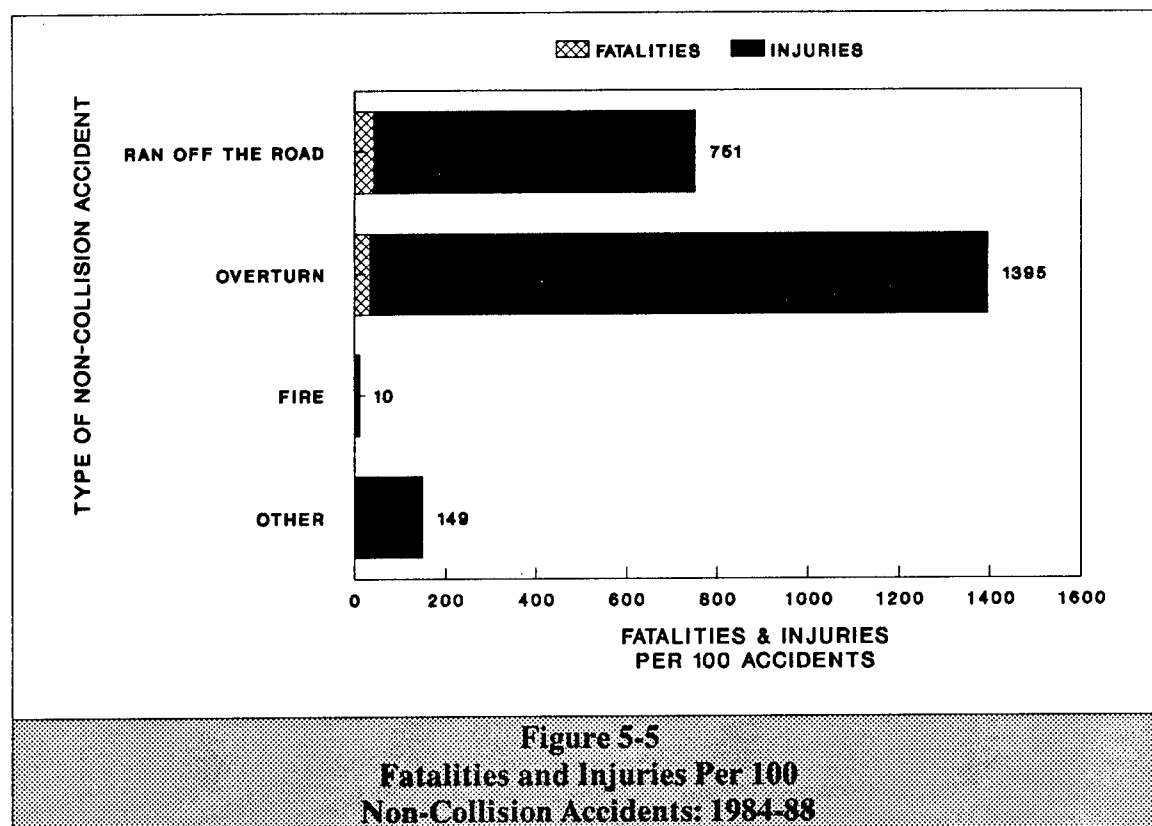


Figure 5-4
Fatalities and Injuries in Vehicular Collisions
By Reporting Vehicle Movement: 1984-88

Table 5-4
Non-Collision Accidents, Fatalities, Injuries, and Property Damage
By Type of Non-Collision
Average Per Year: 1984 - 1988

TYPE OF NON-COLLISION	ACCIDENTS		FATALITIES		INJURIES		PROPERTY DAMAGE	
	#	%	#	%	#	%	\$	%
RAN OFF THE ROAD	14.8	24.42	6.2	79.49	105.0	49.30	284,010.4	28.15
OVERTURN	4.2	6.93	1.4	17.95	57.2	26.85	118,438.2	11.74
FIRE	8.0	13.20	0.0	0.00	0.8	0.38	586,035.4	58.09
OTHER/NOT RPTD.	33.6	55.45	0.2	2.56	50.0	23.47	20,367.8	2.02
TOTAL	60.6	100.00	7.8	100.00	213.0	100.00	1,008,851.8	100.00

*Accidents Reported By Motor Carriers of Passengers
(1984-1988)*



APPENDIX

Glossary MCS 50-B Accident Report Form

GLOSSARY

Accident Classes. Used to categorize commercial vehicle accidents according to accident severity. The three classes referred to in this report are: fatal accidents, injury accidents, and property damage accidents.

Accident Consequences. The physical results of motor vehicle accidents. Consequences include fatalities, injuries, and property damage.

Accident Severity. Measures the seriousness of an accident according to the type and quantity of the accident's consequences. In this report, fatalities are more severe than injuries, and injuries are more severe than property damage. See also "Fatalities/Injuries."

Accident Type. "Collision" or "non-collision."

Carrier Type. "For-hire" or "other."

Charter Service. A commercial passenger vehicle trip not scheduled, but specially arranged. The charter contract normally commits the carrier to furnish the agreed-to transportation service at a specified time between designated locations.

City Trip. A commercial vehicle trip within a single city, town, county, or other geographic jurisdiction.

Collision Accident. An accident involving a collision between a commercial motor vehicle and another object. Collision objects include trains, other motor vehicles, pedestrians, bicyclists, animals,

and fixed objects.

CPV. Commercial Passenger Vehicle.

Fatal Accident. An accident for which at least one fatality was reported.

Fatalities/Injuries. Refers to the average number of fatalities and injuries which occurred per one hundred accidents. Frequently used in this report as an index of accident severity.

Fatality. A death resulting from a motor vehicle accident.

Fatality Rate. The average number of fatalities which occurred per accident or per one hundred accidents.

50-B Report. Form MCS 50-B, the *Motor Carrier Accident Report (Passenger-Carrying)*. Commercial carriers subject to the Department of Transportation Act are required to submit a 50-B report to the Federal Highway Administration on each reportable accident in which they are involved.

FMCSRs. *Federal Motor Carrier Safety Regulations*. The FMCSRs are contained in the *Code of Federal Regulations*, Title 49, Chapter III, Subchapter B.

For-Hire Carrier. A commercial motor carrier whose primary business activity is the transportation of passengers or property by motor vehicle for compensation.

ICC Authorized Carrier. A for-hire motor carrier engaged in interstate or foreign commerce, subject to economic regulation by the Interstate Commerce

Commission.

Injury. Bodily injury resulting from a motor vehicle accident. To qualify as an "injury," the injured person must require and receive medical treatment away from the accident scene.

Injury Accident. An accident for which at least one injury, but no fatalities, was reported.

Injury Rate. The average number of non-fatal injuries per accident or per one hundred accidents.

Non-Collision Accident. A motor vehicle accident which does not involve a collision. Non-collision accidents include jackknives, overturns, fires, cargo shifts and spills, and incidents in which trucks run off the road.

Property Damage. The actual or estimated dollar value of vehicle, cargo, and other property damage incurred in motor vehicle accidents.

Property Damage Accident. An accident for which property damage of \$4,400 or more, but no fatalities or injuries, was reported.

Property Damage Rate. The average amount of property damage per accident or per one hundred accidents.

Property Damage Threshold. The amount of property damage used to determine whether an accident not involving fatalities or injuries is reportable under the *FMCSRs*. In 1988, the property damage threshold was \$4,400.

Scheduled Service. A scheduled commercial passenger vehicle trip. The scheduled trip is generally offered at pre-established times between designated locations.

Reportable Accident. A motor vehicle accident involving a carrier subject to the Department of Transportation Act, which results in a fatality, injury, or property damage of \$4,400 or more (49 CFR 394.3).

Trip Type. "Intercity" or "city." Trip type is often subdivided into "charter" or "scheduled" service.

**Accidents Reported By Motor Carriers of Passengers
(1984-1988)**

OMB NO. 2125-0526
(Average completion time for this form is 1 hour)

U.S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION				MOTOR CARRIER ACCIDENT REPORT			
Original and two copies of MCS 50-B shall be filed with the Director, Regional Motor Carrier Safety Office, FHWA, as required by 394.9. Copy shall be retained in carrier's file. Circle or (X) appropriate boxes below.							
1. Name of carrier (Corporate business name)				2. Principal Place of Business (Street and no., City, State, Zip Code)			
3. Type of carrier <input type="checkbox"/> A ICC Authorized, MC _____				<input type="checkbox"/> B Other (Specify) _____			
4. Type of trip <input type="checkbox"/> A Intercity <input type="checkbox"/> B City operation				4A. <input type="checkbox"/> A Charter or special <input type="checkbox"/> B Regular operation			
5. Place accident occurred (Nearest Town or City, State)				5A. Type of district <input type="checkbox"/> A Rural <input type="checkbox"/> B Residential <input type="checkbox"/> C Primarily business			
6. Street or highway (Route or Name)				6A. Location if off highway			
7. Day of week <input type="checkbox"/> A M <input type="checkbox"/> B T <input type="checkbox"/> C W <input type="checkbox"/> D TH <input type="checkbox"/> E F <input type="checkbox"/> F SA <input type="checkbox"/> G SU		8. Date accident occurred ____/____/____		9. Time accident occurred (Military time to nearest hour)			
10. ACCIDENT TYPE (Primary Event)							
10A. Collision (Check appropriate box) <input type="checkbox"/> A Not applicable <input type="checkbox"/> B Collision with moving object <input type="checkbox"/> C Collision with fixed or parked object							
10B. Collision (Check other object involved) <input type="checkbox"/> A Not applicable <input type="checkbox"/> E Pedestrian <input type="checkbox"/> I Animal <input type="checkbox"/> B Commercial truck <input type="checkbox"/> F Bus <input type="checkbox"/> J Motorcycle <input type="checkbox"/> C Fixed object <input type="checkbox"/> G Train <input type="checkbox"/> K Other (Specify) _____ <input type="checkbox"/> D Automobile <input type="checkbox"/> H Bicyclist							
10C. Collision with another vehicle—Accident Classification (Check appropriate box) zzz <input type="checkbox"/> not applicable							
VEHICLES (Yours is #1)				ACTION			
VEHICLES				ACTION			
	1	2	3		1	2	3
A				L			Intersection
B				M			Passing
C				N			Changing Lanes
D				O			Sideswipe—Opposite Direction
E				P			Head-On—Crossed Into Opposing Lane
F				Q			Skidding
G				R			Vehicle Out-Of-Control
H				S			Unattended Vehicle Rolled Away
I				T			Controlled Railroad Crossing
J				U			Uncontrolled Railroad Crossing
K				V			Other (Specify) _____
10D. Non-Collision (Check primary event) <input type="checkbox"/> A Not applicable <input type="checkbox"/> C Overturn <input type="checkbox"/> E Other (Specify) _____ <input type="checkbox"/> B Ran off road <input type="checkbox"/> D Fire							
10E. If not primary event, did accident result in <input type="checkbox"/> A Not applicable <input type="checkbox"/> B Fire <input type="checkbox"/> C Explosion							
11. DRIVER INFORMATION							
11A. Name of your driver				11B. Age		11C. Carrier USDOT Number	
11D. How long employed as your driver (To nearest year)							
11E. Hours actually driving since last period of 8 consecutive hours off duty <input type="checkbox"/> A 1 hr. <input type="checkbox"/> C 3 hrs. <input type="checkbox"/> E 5 hrs. <input type="checkbox"/> G 7 hrs. <input type="checkbox"/> I 9 hrs. <input type="checkbox"/> K 11-12 hrs <input type="checkbox"/> B 2 hrs. <input type="checkbox"/> D 4 hrs. <input type="checkbox"/> F 6 hrs. <input type="checkbox"/> H 8 hrs. <input type="checkbox"/> J 10 hrs.							
11F. Anticipated driving time between periods of 8 consecutive hours off duty if accident had not occurred <input type="checkbox"/> A 1 hr. <input type="checkbox"/> C 3 hrs. <input type="checkbox"/> E 5 hrs. <input type="checkbox"/> G 7 hrs. <input type="checkbox"/> I 9 hrs. <input type="checkbox"/> K 11-12 hrs <input type="checkbox"/> B 2 hrs. <input type="checkbox"/> D 4 hrs. <input type="checkbox"/> F 6 hrs. <input type="checkbox"/> H 8 hrs. <input type="checkbox"/> J 10 hrs.							
11G. Condition of driver <input type="checkbox"/> A Apparently normal <input type="checkbox"/> C Had been drinking <input type="checkbox"/> E Other (Specify) _____ <input type="checkbox"/> B Sick <input type="checkbox"/> D Dozed at wheel							
11H. Date of last medical certificate ____/____/____							

Form MCS 50-B (Passenger-Carrying) (Rev. 4-91) Previous editions of this form are obsolete.
(over)

12. CARRIER'S VEHICLE(S)					
TYPE	YEAR	NO. OF AXLES	MAKE	MODEL NO.	COMPANY NO.
A Bus					
B Limousine					
C Other (Specify) _____					
13. Total length of vehicle _____ Ft.		13A. Total width of vehicle _____ In.		13B. Weight of vehicle _____ Lbs.	
14. Type of fuel <input type="checkbox"/> A Gasoline <input type="checkbox"/> B Diesel <input type="checkbox"/> C L.P.G. <input type="checkbox"/> D Other (Specify) _____					
15. Cargo (Other than passengers) at time of accident (Your vehicle) <input type="checkbox"/> A Not applicable <input type="checkbox"/> B Specify cargo _____			16. No. of persons on vehicle (including driver) _____		
			17. Seating capacity (including driver's seat) _____		
18. Was your driver killed? <input type="checkbox"/> A Yes <input type="checkbox"/> B No			18A. Was driver injured? <input type="checkbox"/> A Yes <input type="checkbox"/> B No		
19. Number of carrier personnel Killed _____ Injured _____			19A. Number of passengers in your vehicle (Excluding carrier personnel) Killed _____ Injured _____		
20. Total number of other persons Killed _____ Injured _____			21. Amount of total property damage in dollars \$ _____		
22. Were mechanical defects or failures apparent on your vehicle at time of accident? <input type="checkbox"/> A Yes <input type="checkbox"/> B No					
22A. Mechanical defects or failures (Check appropriate boxes)					
<input type="checkbox"/> A Not applicable		<input type="checkbox"/> D Fuel system		<input type="checkbox"/> G Wheels and Tires	
<input type="checkbox"/> B Suspension		<input type="checkbox"/> E Transmission		<input type="checkbox"/> H Driveline	
<input type="checkbox"/> C Brakes		<input type="checkbox"/> F Lights		<input type="checkbox"/> I Steering System	
				<input type="checkbox"/> J Engine	
				<input type="checkbox"/> K Other (Specify) _____	
23. Driver's seat belt installed? <input type="checkbox"/> A Yes <input type="checkbox"/> B No In use? <input type="checkbox"/> A Yes <input type="checkbox"/> B No					
24. Passengers' seat belts installed? <input type="checkbox"/> A Yes <input type="checkbox"/> B No					
25. OTHER VEHICLES INVOLVED					
25A. Company name or operator (Vehicle No. 2)		25B. Address		25C. Type of vehicle	
25D. Company name or operator (Vehicle No. 3)		25E. Address		25F. Type of vehicle	
26. Weather <input type="checkbox"/> A Rain <input type="checkbox"/> C Snow <input type="checkbox"/> E Cloudy/overcast <input type="checkbox"/> B Clear <input type="checkbox"/> D Fog/Smog <input type="checkbox"/> F Sleet <input type="checkbox"/> G Other (Specify) _____			26A. Light <input type="checkbox"/> A Day <input type="checkbox"/> C Dawn <input type="checkbox"/> F Artificial lights <input type="checkbox"/> B Dark <input type="checkbox"/> D Dust <input type="checkbox"/> F Other (Specify) _____		
27. Road surface <input type="checkbox"/> A Dry <input type="checkbox"/> C Snowy <input type="checkbox"/> E Other <input type="checkbox"/> B Wet <input type="checkbox"/> D Icy (Specify) _____		27A. Total number of lanes <input type="checkbox"/> A One lane <input type="checkbox"/> C Three lanes <input type="checkbox"/> B Two lanes <input type="checkbox"/> D Four or more lanes		27B. Type of highway <input type="checkbox"/> A Divided <input type="checkbox"/> B Undivided	
27C. Check appropriate box <input type="checkbox"/> A Not applicable <input type="checkbox"/> B Entrance ramp (Expressway) <input type="checkbox"/> C Exit ramp (Expressway)					
28. Account of accident by carrier official (Please type or print clearly)					
29. Name and title of person signing report:				30. Signature	
31. Telephone Number Area Code				32. Date report submitted ____ / ____ / ____	

U.S. Department
of Transportation
**Federal Highway
Administration**

400 Seventh St., S.W.
Washington, D.C. 20590

Official Business
Penalty for Private Use \$300

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